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The Great Barrier Coral Reef

Queensland



WHITSUNDAY AND

1. Turtle and Captor, Maher Island.
2. Mrs. Turtle Comes Ashore.
3. From the Heights, Lindeman Island.
4. Huts for Tourists, Lindeman Island.
5. Climbing for Cocoanuts, Neck Bay.
6. Two Natives, Lindeman Island.
7. Descending Mount Olden, Lindeman Island.
8. Looking towards Seaforth Island, Lindeman.
9. Viewing Coral Garden through Waterscopes.
10. Devil Fish, Harpooned near Lindeman Island.
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CUMBERLAND GROUPS.

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13. Pentecost or Lion Island, from Lindeman.
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18. Dugong or "Sea Cow."
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21. Seaforth Island, from Lindeman Island.





CAPRICORN AND

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BUNKER GROUPS.

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SEE THE BARRIER REEF

BEFORE you spend money and time and energy travelling round the world to see the Pyramids of the Pharaohs, the Ruins of Greece and Rome, the Snows of Switzerland, or the Gardens of the Rhone Valley, see the Great Barrier Reef of Australia, right at Queensland's front door. It offers one of the most amazing and delightful experiences to parties of both sexes in the whole category of the world's tourist resorts, without the stress and expense of overseas travel.

Scientists and travellers concede that the Great Barrier Reef, stretching in a chain of coral structures more than 1,000 miles in length from just south of New Guinea to a little north of Bundaberg, along the Queensland coast, is one of the greatest marvels of any age and any country.

The Great Barrier Reef is a gigantic rampart of coral reefs and islands, built up from the floor of the sea by countless billions of microscopic beings known to the scientist as coral polyps. It is from 10 to 150 miles in width.

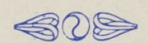
The building of the Pyramids by the slave armies of the Egyptian tyrants is dwarfed into insignificance and fleeting futility by this gigantic structure of limestone absorbed from their food by the tiny architects of the greatest barrier reef in the world.

The Barrier is studded with mountainous islands whose bases have once been part of the mainland but have sunk beneath the surface of the sea, and with coral atolls and sand cays, whose bases are the reefs of limestone built up from the ocean bed by the tiny workers, in their effort to keep their home at the level of the warmer waters as the bed of the ocean subsided through the ages.

The wooded mountainous islands of the Grand Canal, with their silver and gold coral strands and fringing reefs, their whispering palms and iridescent seas, are surpassingly lovely and peaceful. The coral islands of the reefs have a blazing beauty, with their blue and green lagoons, their submerged coral gardens and their painted marine creatures and birds and shells that beggars description.

It is the desire of the Queensland Government that Australians should know and appreciate the scenic and natural wonders of their own land which, in this and other instances, are equal to, and even surpass, those of the rest of the world. With that object in view this booklet has been printed for the benefit of those seeking a unique holiday, which will include the novelty of foreign travel, combined with the pleasures of great scenic beauty sunny climate, moderate expense, and nearness to home.

In this comparatively new land there had for a time grown up a tradition that the only things worth travelling to see were those sanctified by conservative custom. The newer generations are finding that there are more wonderful sights in the new world than ever there were in the old.



Varieties of Corals from Great Barrier Reef.

[Photo.: Queensland Railway Commissioner.]



SPORT FOR THE GODS

SPORT incomparable is to be had on the Barrier—fishing, turtle riding, spearing eels and parrot fish; shark baiting; swimming in tonic waters; camping out in the glorious climate amidst scenes of rare beauty; nature study that has made aged scientists declare that the Barrier gave them back their long lost youth; boating trips amongst the fairy islands and lagoons.

Ask anyone who has spent a fortnight on the Great Barrier Reef and you will hear a man talking of wonders that are beyond words.

From several of the larger towns along the Queensland coast, the Barrier Reef is easily accessible by launch, and safe and efficient transport is provided at moderate cost by operators who are approved by the Government Tourist Bureau. The arrangements vary from trips lasting from a day or two to a fortnight or more, and the charge covers everything, including meals, hut or tent accommodation, and boat trips to the islands in the neighbourhood of the camp's headquarters.

Bundaberg is the starting point for cruises to the Bunker Group at the extreme southern end of the Barrier.

The Capricornian Group, situated a little farther north, includes the famous Heron and Nor'-West Islands, and may be reached from Gladstone. These islands, as well as being considered the most attractive of all the coral islands, have more advanced arrangements for visiting parties.

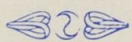
From Mackay, the Whitsunday Group, which includes "Lovely Lindeman" Island, is only a comparatively short journey by motor launch. Here, too, accommodation for tourists in parties has reached a stage where the journey and the camping are not the least enjoyable features of the holiday.

From this point the beauteous isles of Australia's Grand Canal, and the glorious Whitsunday Passage may be visited. From the tops of the hilly islands a view of reef and palm, coral seas and coral strands, unsurpassed in any part of the world, is unfolded to the eye.

From Townsville the coral reefs of the Barrier and the majestically beautiful islands of Hinchinbrook Passage are within the range of day excursions

At Cairns, launch trips are arranged, at low cost, to Green Island, where an excellent view of the coral gardens and their marine life is obtained.

From the Queensland Government Tourist Bureau, full information and every possible assistance and advice are obtainable, free of charge.



Discussing the Catch—Barred Spanish Mackerel and Schnapper, Lindeman Island.



EIGHTH WONDER OF THE WORLD

THE Great Barrier Reef of Australia has been variously described by scientists and travellers as "The Eighth Wonder of the World," "The Future Playground of the World," "The Greatest Marvel of the World," "The Most Beautifully Peaceful Tourist Resort in the World," and "Australia's Greatest Asset." It is not disputed that the Barrier is the most gigantic coral construction in the world.

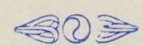
Until very recent years little had been done to exploit the wonders and beauties of the Barrier as a tourist resort, but many scientific expeditions to the Reef have come away so full of admiration of its beauties and marvels and so enthusiastic as to the national wealth represented by its products, that grudging acquiescence at home is giving place to interested speculation, and a steadily increasing tourist traffic, assisted by the Queensland Government Tourist Bureau.

Leaders of business are awakening to the latent wealth of the marine industries right at Queensland's front door, and travellers from all countries, sated with the night-life of the continent, seeking a change from the social round, bored by the buildings and art exhibits that are the stock-in-trade of the old-world caterers for globe-trotters, are turning with rapture to the Great Barrier as a marvel of life and beauty undreamed of in their former philosophy.

The discriminating traveller is caught up by the great, wide, amazingly lovely vistas of the Barrier and its islands and seas. Romance and beauty are here unfolded to the enraptured gaze as never in the pages of the most brilliant novel. For 1,000 miles and more along the Queensland coast the chain of coral reefs and islands and atolls, known as the Great Barrier Reef, provides a playground for tourists and a field of research for students of nature, which is approached by nothing else in any land or sea.

No tour of Australia by an overseas visitor can be complete without a week or two on the Barrier, from one or other of the many points of access along the Queensland coast. No Australian who believes in knowing his own country can afford to remain in ignorance of the greatest of all the sights on his great island home. No Queenslander who takes an annual holiday of two or three weeks could return from a trip to the Barrier, in the tourist season, without feeling that he had had a wonderful holiday.

It is confidently asserted by world-wide travellers that only a knowledge of the wonders of scenery, sport, climate, and interest to naturalists, amateur or professional, is needed to make the Barrier one of the most popular of all tourist resorts, amongst Australians as well as visitors.



A Reef at Low Tide, with Coral Exposed.

[Photo.: Queensland Railway Commissioner.]



IN CORAL SEAS

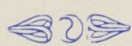
FROM New Guinea to Bundaberg the Great Barrier, broken by numerous passages to the Pacific Ocean, forms a rampart on which the league-long rollers of the blue Pacific crash in a mighty hymn sounded by the organ pipes of nature. From 10 miles in width or less to 150 miles and more, the Barrier encloses reefs and islands, cays and atolls and pools and lagoons which, in their sheer beauty of colour and form, have defied the skill of artists to reproduce, and caused prosaic professors of biology and natural history to exclaim with wonder.

Magic islands, adorned by trees and palms and flowers, have sprung up in the midst of the Barrier, wafted in the form of soil and seed on the winds and waters, to settle and expand on the foundations of coral built up from the bed of the sea by tiny animals. In the emerald and turquoise and amethyst and pearl tinted waters of the seas of the Barrier, spread out for the delighted eyes of the visitor, like the riches of Aladdin's Cave, are submarine forests and gardens of coral, blooming with softly beautiful shrubs and flowers of coral, and inhabited by marvellous denizens of the deep, coloured by Nature in a way that puts to shame the taudry efforts of the most successful theatrical producers. The spectacles of the stage and the artists' palettes are limited by the banking facilities of a Rothschild, or the human skill of a Turner. The wonders of the Great Barrier have behind their production all the forces of the Universe—and the result is beyond compare.

Graceful birds in millions, from the small, olive-green honey birds that chirrup in the trees as single spies, to the myriad battalions of terns and mutton birds that darken the sky as they go out to the fishing grounds. Dolphins and whales, sea snakes coloured like the raiment of an oriental prince; fish that are mauve and azure and green and gold; lovely submarine flowers that live by murder! The blazing glory of the outer coral reef laid bare by the receding tide! The indescribable colours of sea and sky peculiar to this region. The exhilarating air, that is in itself a tonic to the human body and mind. The wonders of the Great Barrier can only be hinted at. They must be seen to be realised.

And the Grand Canal—the inner passage between the Barrier and the mainland—the channel followed by the thousands of steamers that go from Australia to the East—is in itself one of the rare scenes of peace and beauty about which the world overseas is beginning to talk and write.

The days when it was considered fashionable to decry Australian scenery have passed and now we have a national pride in the beauty of our own land. Queensland is the Mecca of the Southern tourist in winter. The fashionable thing is to visit the North and the Barrier.



Tournifortia Argentea in Flower.
Typical Vegetation on a
Coral Island.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



THE OLD SEA DOGS

BLUE lagoons on emerald, palm-fringed isles, in warm, tropic southern seas—and the tragedy of shipwreck on brilliantly tinted coral reefs, have formed the basis of innumerable romantic sea stories, from the time when the ancient mariners first ventured beyond the narrow confines of the old world, in their tiny, stout-timbered ships. Australia's Great Barrier Reef, with its wonders of beauty and marvels of marine life, likewise has been associated with the earliest chronicles of the continent and its navigators.

In the year 1606 the brave old Spanish sea-dog, Captain Luis Vaes de Torres, exploring the Pacific, sighted the green-topped isles of the northern part of the Barrier, on his way to the discovery of Torres Strait, without knowing that he was the first white man to gaze upon the Eighth Wonder of the World.

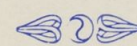
Captain Cook, who gave the world Australia, sailed up the inner passage in 1770, without guessing anything of the marvels that lay to seaward in the form of the greatest chain of coral reefs in existence. He bumped his gallant little ship, the "Endeavour" on what is now known as Endeavour Reef, between Port Douglas and Cooktown. The sharp coral pierced the vessel's hull, and she leaked so badly that cannons and other material had to be jettisoned in order to lighten the ship enough to get her—with a sheet of canvas over the hole—to the mainland. She was run ashore and repaired, at a spot where the sturdy pioneers were to build Cooktown in later years.

From the tops of the hills adjacent to the shore the famous navigator had his first shocked view of the reefs of the Barrier—a sight that was to cause him many an anxious hour before he threaded his way out of their labyrinth.

William Bligh, in 1789, when the mutineers of the "Bounty" set him adrift in an open boat, with eighteen men and short provisions, found a passage through the surf of the Great Barrier, and landed on a spot which he called Restoration Island. Later he cruised northwards amongst the islands and atolls, cays, and fringing reefs till he reached Torres Strait. In after years he returned with ships of the Navy and mapped the Great Barrier Reef for the first time.

Matthew Flinders, destined to become even more famous as a navigator, in 1792 came with Bligh, and in the days to come, added much to the world's knowledge of the Barrier

Another hardy mariner who contributed to knowledge of the South Seas, Captain Edwards, was wrecked in 1791 on the Barrier, and filled another tragic page in the history of the old sea-dogs.



Convolvulus in Pisonia Forest,
Nor'-West Island, Capricorn
Group.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



A GLORIOUS JOURNEY

SINCE the day of Cook and Flinders there have been many wrecks on the Great Barrier Reef, but the development of trade and commerce between Australia and the East has brought into being countless ships that voyage by the inner passage to the islands of the Pacific, to Japan and China and India, and to Europe, varying from steamers with their holds packed with beads and mirrors to trade to the savages of New Guinea and the Hebrides, or butter for China from Australian dairy farms, to floating palaces of steel, carrying millionaires from Wall Street, bent on seeing the world and its wonders.

The reefs have been charted and mapped; the channels sounded; the danger points marked with white towers set above the green bank of the trees and stabbing the darkest night with their great shafts of white light to warn the navigators.

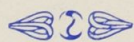
Pilots, specialising in an intimate knowledge of the reefs and passages have been trained; weather forecasts and storm warnings reduced to a science by the direction of the Government. To-day the passengers on the decks of the steamers that thread the beautiful islands of the Grand Canal, the inner passage of the Great Barrier Reef, need feel nothing of the fear and anxiety of the early sea dogs; they gather on comfortable deck chairs and exclaim with joy at the marvellous beauty of the jewel-like islands, set in a glory of sea that changes from the deepest blue to jade, girdled by snow-white beaches of coral sand and crowned by the vivid green of the trees.

To Cook and Flinders the passage along the Great Barrier Reef was a desperate adventure, fraught with the imminence of shipwreck, while naked cannibals waited on shore to meet those who might survive the wreck. To the steamer passenger of to-day the trip is a glorious holiday, studded with beauty, luxurious with ease and comfort and fragrant for ever afterwards with happy memories.

The wonderful climate of Queensland and its tropical scenery have become so popular with Southern tourists that a fleet of luxury ships has been commissioned to carry the winter tourist trade, and the majority of visitors to the North every year are including in their itinerary the Barrier Reef, which is beginning to take its place as one of the wonders of the modern world.

So enamoured are Southern people becoming of the Barrier that organised parties are going to the Reef every winter, for a few weeks at a time, and each party, returning, sends others in its train.

In the winter of 1932 it was a common experience to find that all the berths on the northern tourist ships had been booked far in advance of the starting dates. Teachers and others in the Government service are banding together every year for a trip to the Barrier.



Shute Harbour, Whitsunday
Passage.

[Photo.: Queensland Govern-
ment Tourist Bureau.]



THE AMAZING ARCHITECTS

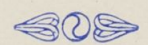
SINCE the days before man, in the primeval forests, decided in future to walk erect on his hind legs and to cease living in trees, the scientists tell us the crust of the earth has been shrinking, in its process of cooling, as the internal fires recede further from the surface. The shrinking is an infinitely slow process as time is calculated by man. With the shrinking, certain portions of the dry land sink beneath the sea. Each continent is surrounded by what is known as the continental shelf, just below the surface, and sloping more or less gently towards the unfathomable depths of the outer ocean. On this continental shelf, before it had sunk to anything like the depth of this present period of time, the coral animals first commenced to build their amazing structures. The foundations of the coral reefs which now form a submarine chain of mountains along the Queensland coast were begun in this way. The coral architects, of course, built from shallow depths to the surface. As the shrinkage of the earth's crust, with its accompanying subsidence of the continental shelf, proceeded, the corals had to build tier on tier, story on story, labyrinth on labyrinth, hill upon hill, garden upon garden, towards the warmer waters of the sea's surface; and in course of time the Great Barrier Reef of Australia was thus an accomplished fact, with the submerged land between it and the higher points of the mainland covered by the encroaching sea. The submerged portion is now known as the Grand Canal, or the inner channel.

This is the more generally accepted theory of the growth of the class of reefs known as barrier reefs.

The action of certain sea animals and substances has a cementing and solidifying effect on the dead coral structure below the water at certain depth, and by these agencies the dead and discarded strata of limestone coral reef has been translated into solid coral rock as firm and concrete as marble, while the living corals on the warmer surface build their gardens and grottoes and submarine palaces and forests in glorious colours, ever upward as the foundations subside with the shrinking of the cooling earth. They work in obedience to the simple law of self preservation. The tiny architects can live and work only a certain distance from the surface where the waters are warm.

Coral reefs have been divided into barrier reefs, fringing reefs, and atolls. Barrier reefs, unlike fringing reefs, frequently are found far from land, with the water forming the channel between as deep as 30 fathoms.

Fringing reefs are always close to land. They have lent colour and romance to countless stories of the sea. It was the fringing reef at Apia, in 1889, which formed the setting for the immortal story of the British ship *Calliope* when she forced her way through the hurricane, out to sea and safety.



A Beautiful Reef Crab (*Zoerymus aeneus*).

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



THE ISLES OF ROMANCE

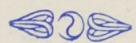
FRINGING reefs are simply built up from the lower submerged slopes of island coasts in a similar manner and extended outward until there is a broad platform of reef, separated at low tide from the island by a shallow channel, which can be waded across. They are distinct from barrier reefs.

The third kind is the atoll—the magic isle of the romances, set like a gem in the blue bed of the tropic sea, enclosing a placid lagoon and ringed with green foliage that delighted the sailor of 100 years ago and the novelist of all ages. These isles of beauty and romance were for a long period a mystery as to their origin, rising as they did from the bottom of the ocean 100 fathoms below, and in some cases being hundreds or thousands of miles from land. One theory was that they grew up, not from the bottom of the ocean, but from the craters of extinct volcanic mountains which were close below the surface of the sea. While this may be true of isolated cases, it is considered fantastic in regard to thousands of atolls in the Pacific and Indian Oceans. The great naturalist, Charles Darwin, is generally believed to have solved the mystery, when he propounded the theory of building up from a beginning in shallow waters as the land subsides. This is borne out by the fact that the coral builders cannot live at greater depths than 30 fathoms.

Darwin explained the coral atoll by saying that a high point of land surrounded by a fringing reef slowly subsided and as it sank the outer edges of the reef were built up towards the surface. In time, when the highest point of the land was submerged, there was left a lagoon inside the reef. Debris and plants which grew from seeds borne from the mainland by birds, or were washed up by the sea, then converted the fringe of the reef into fertile land, covered by vegetation. As the builders worked outwards the shores of the atoll extended and as the lagoon in the centre was filled up with debris through countless years, its waters disappeared and the island or sand cay was formed, with dry land right across.

This theory, known as Darwin's subsidence theory, is accepted by large numbers of leading scientists to-day.

There is a magic touch about the making of a coral atoll which catches the fancy. With a solidity never approached by human masons the tiny coral animals toil, aided by the trade winds of romance the white-winged gulls, the finned denizens of the deep, and countless other agencies of the Great Builder, quite unconscious of the marvellous works of beauty they are bringing into being. It is an object-lesson in evolution, showing Nature at work from the beginning to the end of her present chapter in history.



Edge of Reef, Heron Island.
Clam and Sea Star (Blue
Linckia) in Foreground.

[Photo.: Queensland Railway
Commissioner.]



THE BLUE LAGOON

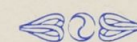
THE deep blue surface of the Pacific is broken by a lacework of creamy foam, where the long rolling swell of the ocean's bosom is checked by a submerged reef. Under the sea countless millions of tiny animals, coral polyp, have built up from the submerged shelf that surrounds the continent an amazing edifice of coral rock out of the lime extracted from their food. In tiers and branches, columns and ridges, layer after layer, the edifice has grown in the ages that have passed since they first began to build, till the artificial reef has reached the surface and, at low tide, is barely exposed.

A dark object, rising and falling in the swell, is borne nearer and nearer to the creamy lacework of foam that marks the apex of the submerged reef. It is a piece of cocoanut palm broken off in a hurricane from a grove on the golden sands of a southern isle, hundreds of miles away, and blown by the steady trade winds out of the ken of the creatures of the land. At the lowest ebb of the tide the log settles on the reef. A surge of the green seas wedges it between the boughs of a strong tree of heliotrope coral, growing in a fairy submarine garden of astounding beauty, there in the sea, out of sight of land. Every wave of the rolling Pacific jams the dark mass of timber tighter in the hold of the coral.

The blue and gold and white of the sky are covered at sunset by the dark masses of clouds that herald the hurricane. All night long, lashed by cyclonic winds, the great seas roar and boom and crash over the reef, breaking off masses of the wonderfully coloured reef, hurling them this way and that. Fixed in the reef the black log from the cocoanut palm holds the pieces that roll over it from sliding back into the sea and, when the storm subsides and the dawn breaks, the broken, jagged masses, held by the tightly wedged log, project above the surface as the tide goes out. A gull alights on the projection, wondering, perhaps how it came to be there. All about into the crevices of the reef the sea has washed sand and pieces of coral rock. Where, before the storm, was the rolling surface of the sea, unbroken, except for that narrow lacework of creamy foam, now is a minute islet, only a few yards in circumference, but still an islet, in the blue surface of the level sea.

As the years go by migrating birds, weary for the land, see a crimson point breaking the green and white surface of the Pacific swell, and know it for the highest point of a coral reef. They rest on it and depart, leaving

seeds and fertiliser to bring forth leaves and blooms. A whale basking in the sunny waters becomes stranded when the tide goes out. More body and fertiliser for the atoll. The battle of the sharks leaves more bones and fertiliser to help in the building of the fairy isle



Horseshoe Clam (*Hippopus hippopus*) with Beche-de-mer in Foreground.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



A JEWEL OF THE SEA

As the days go by the birds gather on it and deposit their droppings. The steady swell of the ocean washes more debris to lodge amongst the crevices in the exposed coral. The storms roll more of the smashed coral rocks over the edge and down the further side. Seeds and roots of hardy trees and plants that will grow with salt water about their feet spring up from the droppings of the birds, and take root in the sand and mud washed on to the tiny coral islet by the waves. In the course of time the plants and shrubs grow and, thus provided with a resting place, multitudes of birds gather there.

With the increase of obstruction the lodging of debris multiplies. The plants and shrubs grow to maturity, die and rot through the years. Mixed with the sand that has accumulated this forms a coating of fertile soil. The winds and the birds and the sea bring more and still more debris, and, as the centuries pass, the tiny islet grows, bit by bit; the shrubs and plants increase in size and number; the lashing of the waves piles up the powdered rock in the form of sand. The tiny coral architects keep on adding to the sides of the reef; and the wind and the waves, always from the east, shape the reef in a crescent, with its horns pointing to the west.

Over the windward side of the horns of the crescent the trade winds wash countless carcasses of denizens of the deep that have died, and these are held on the leeward side to build up the island still further above the tide level. A few more ages roll by, with the process of the accumulation of debris from the sea and the continual building by the countless tiny architects, till, at last, the horns of the crescent meet, enclosing the waters within. The process continues and, one day, the bold and hardy crew of a white-sailed schooner, cruising in uncharted seas, sights a low, green smudge on the horizon level. The schooner changes her course. The skipper has made an unexpected landfall. A few hours later he anchors in the lee of the atoll that has grown out of the sea by the wedging of the bole of a broken cocoanut tree washed up by the waves centuries before.

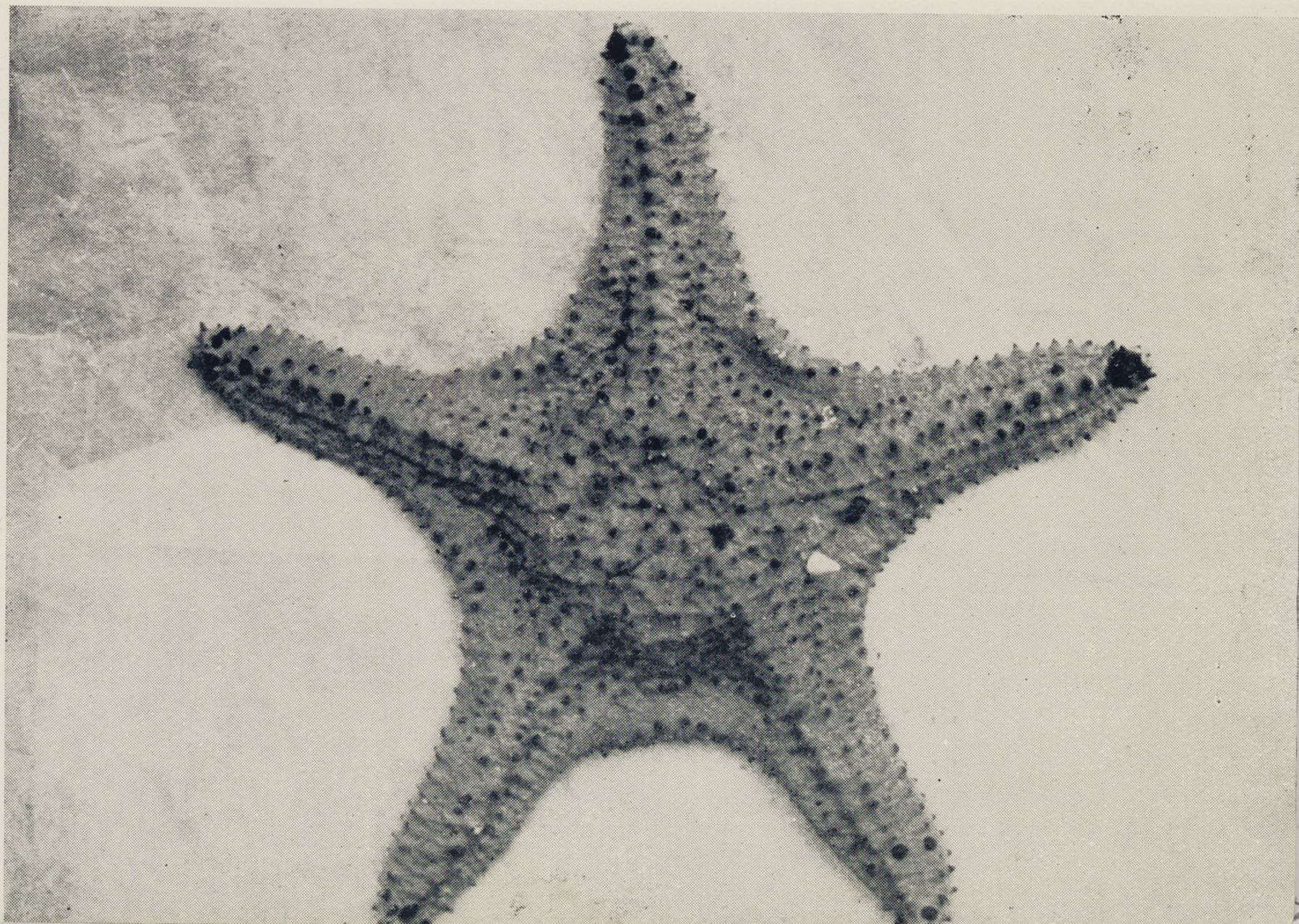
At high tide the sailors cross the lowest point of the reef and exclaim with delight at the beauty of the blue lagoon, with its fringe of dazzling, snow-white coral sand for a beach; its background of green trees and shrubs and brilliant blossoms, and its amazingly lovely coral gardens, in which marine animals and fish decorated by Nature in all the colours of the rainbow, flash from tinted grotto to grotto.

The sailors have discovered one of the countless atolls of the Great Barrier Reef, on the coast of Queensland!



Deep-water Sea Star (Oreaster
Species). Note Parasitic
Mollusc on Body.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



THE CORAL GARDEN

THE eager visitor is likely to be disappointed with his first view of the famous reefs, if the tide is full. Then the dead coral that shows above water is all he sees, and that is brown and dreary and uninteresting. It is when the tide goes out that the beauty and charm of the living coral gardens on the outer reef are laid bare to the view.

But there is no need to wait for the tide to go out. The higher reefs, and the islands and atolls, are jewelled with opalescent lagoons and pools. Drifting over these in a boat, with the aid of a special box-like instrument, with a bottom of glass, called a waterscope, the visitor, at his ease, may view the exquisite fairy gardens, 10 to 12 feet below, as clearly as the flower garden in which he walks at home.

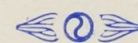
The tourist looks down and sees a living garden of soft, merging tones and tints, shot through with a swift darting of fish and other sea creatures that appear to have been painted by an artist who has used up all the resources of his colour box to produce new tints and markings.

The walls of the garden are a hedge-like growth, a hedge that has grown into all kinds of fantastic shapes on the outer surfaces. The colours of the hedge of living coral are gold and blue, brown and heliotrope and cinnamon, mauve and pink and green and cream and white—not a harsh or startling or sensational colour scheme like a poster—but soft and wonderfully pleasing to the eye. The tints merge into one another so gently that the lover of colour finds nothing but delightful shades wherever he looks.

Trees and shrubs and plants and flowers of living coral are distributed within, or actually grow on the hedge-like enclosure, and on “rockeries” which themselves vie with the coral flowers in lovely shades. Trees in miniature, whose boughs are heliotrope, tipped with gold that flashes in the filtered light of the sun from above like candelabra lit with a thousand flames; shrubs whose stems are of rich chocolate, branches of creamy yellow, and leaves of pale orange. Swaying sea anemones of emerald green, electric-blue, scarlet, or brown, crowding each other for growing-space in the magic garden.

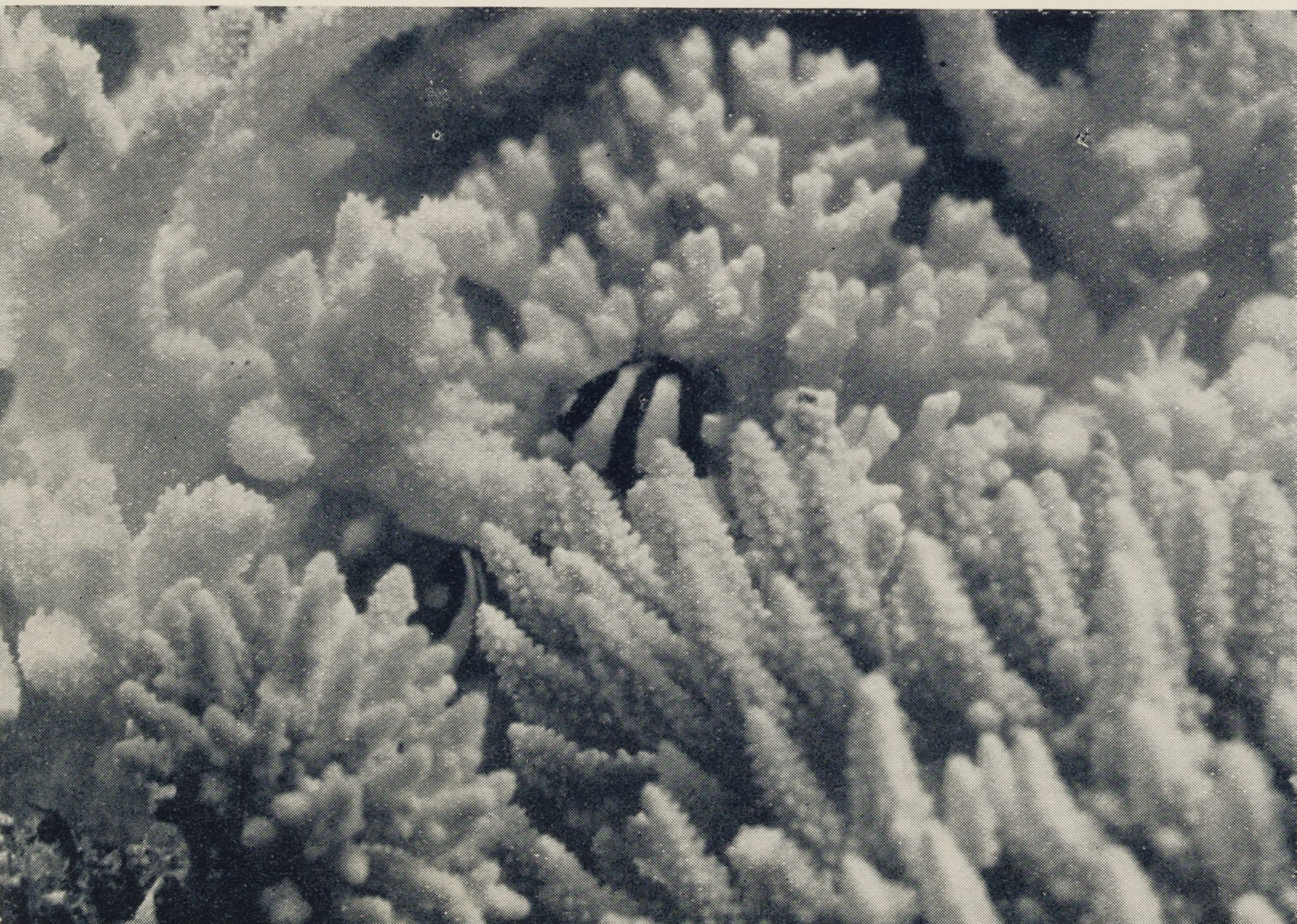
Artists and printers alike have failed to reproduce a picture that does justice to the soft, chaste, entrancing loveliness of the coral gardens. The presses are limited by mechanical considerations. The artists by

the resources of human skill pitted against the infinite. Specimens have been cleaned and retinted to represent the living coral, but even these fall short of the beauty of the living reef. The Queensland Tourist Bureau and Queensland Museum have some of the finest in existence in Brisbane.



Coral Fish (Tetradrachnum aruanum) in Coral Pool.

[Photo.: Noel Monkman.]



GROTTOES IN ALABASTER

SUNBURST chrysanthemum-like blooms of coral, surrounded by great daisies, whose centres are white, petals yellow, and stems rose pink. Coral staghorn ferns of heliotrope with rose-pink tips, clinging to a rock that is like a panel of petrified sunrise; patches of purple heather. Slender coral plants resembling the most delicate of our garden blooms but, instead of bearing coloured flowers, themselves tinted all over from green to scarlet. Salmon-pink daisies, blue gerberas, yellow star flowers, rose-pink marguerites, purple asters, white and green carnations, snow-white sea lilies; long slender grasses of fine marble; and graceful trees of green and violet. The astonishing likeness in shape of the coral flowers to many of our ordinary garden growths is at once apparent—and each new pool over which the boat drifts on a placid, sunlit sea, discloses newer and more enchanting gardens.

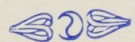
The floor of the coral pool is of gleaming silver sand that glistens in the diluted sunlight like newly fallen snow; or of golden sands that make a rich carpet for the garden.

Lying or swimming about the bottom are shell-fish and sea animals as brilliant in their markings as everything else in the coral garden—five-pointed stars larger than a man's hand, sky-blue, with white edgings and black polka dots, which turn into living fishes basking in the garden; clouds of darting, flashing coral fishes, rose-pink all over, with silver eyes and tail and fins; yellow stripes on a blue body; orange with silver markings; some of them with strange, bulging eyes; little diamond-shaped fish with emerald scales; and great leopard spotted marauders cruising about amongst the coral grottoes in search of food. Sea urchins, with glistening eyes, and spikes all over, like a porcupine, to prevent themselves being eaten.

Giant clams, traps for the unwary, ready to close the gaily painted jaws of their shells in a death sentence on the unfortunate being that comes too close.

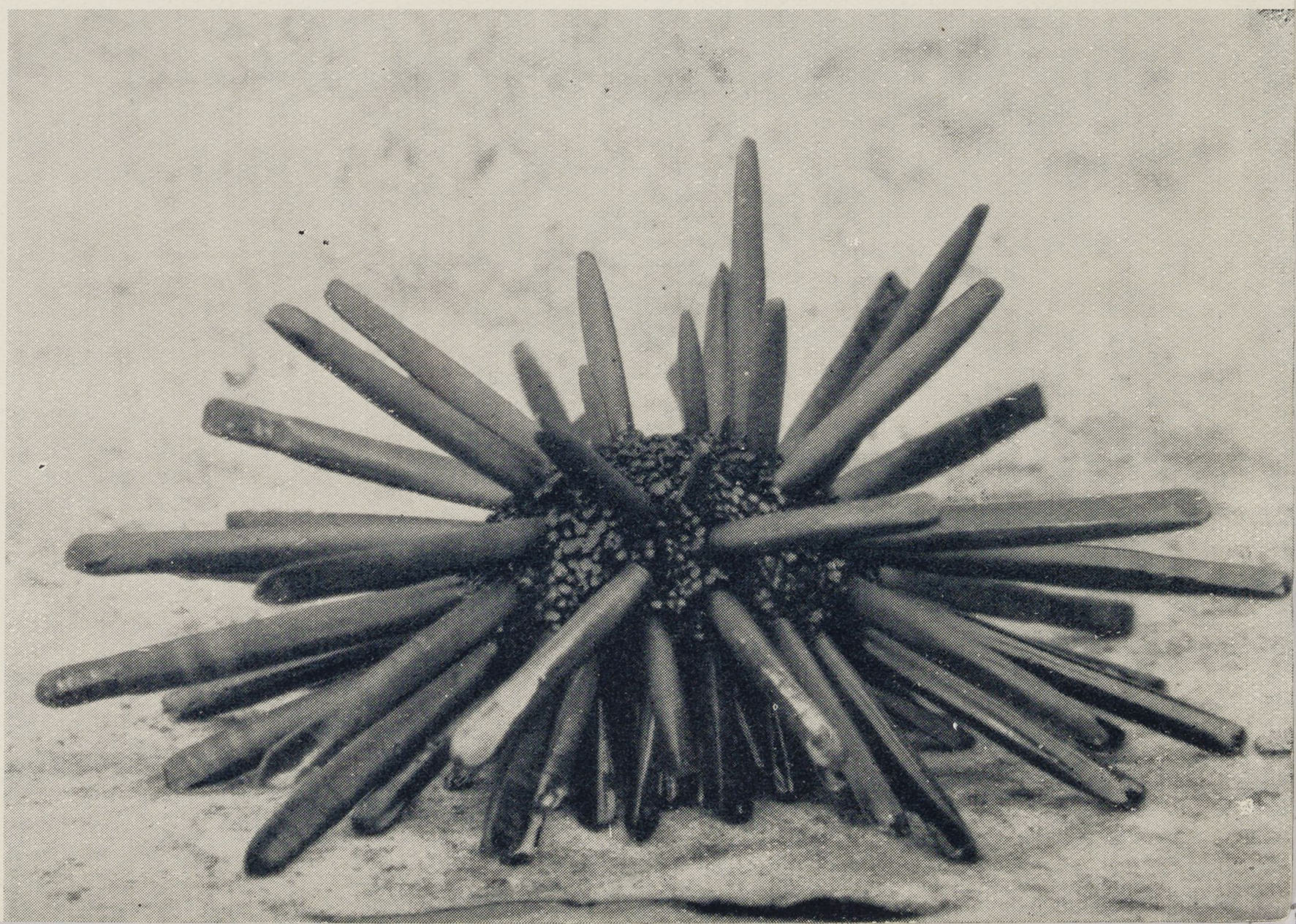
A huge green turtle, with snake-like head and eyes turning from side to side as he cruises from garden to garden, grotto to grotto; fish with painted headgear to make the milliners of Paris rave; with colour schemes to entrance and baffle the artist. Scarlet crabs and heaven blue shells; diamonds and emeralds flashing on tiny living things moving amongst the fairy landscapes. And, on the golden sands of the sea-floor, a great carpet shark, like an ogre lost in fairyland.

A gigantic living pansy of gold velvet, spotted with crimson, which resolves itself into a fish as you watch it and swims, beyond your ken into the mouth of a marvellous fairy grotto of alabaster. Then a great shining blue groper swims into the centre of the stage. Beche-de-mer, pearl and oyster and bailer and trochus shells; sea-horses; fish as transparent as crystal; and every pool is different.



Slate Pencil Sea Urchin
(*Heterocentrotus mamillatus*
Linnaeus).

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



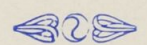
DE ROUGEMENT WAS RIGHT

HERE was a time when the statement of De Rougement, in his chronicles, that the coastal waters of Australia were inhabited by great turtles, on the backs of which the natives used to ride for sport, was hailed with laughter, as the overdone sensationalism of the journalist. Visitors to the Barrier Reef not only know that De Rougement was right, after all, but they may experience the sensation of turtle-riding. This is something to carry back to the work-a-day world as a vivid memory of the days on the Barrier, recalling the poet's phrase which sets out that the measure of life is not in the number of days for which one has delayed the undertaker, but in the number of moments during which one has really "lived" and enjoyed living.

Turtle-riding on the Barrier is only possible when the female turtles visit the islands to lay their eggs. Then at daybreak they may be found in numbers returning to the sea after their night's labour. The turtle-riders climb on the broad, mottled shields of shells that cover the turtles, and grasp the shell in front and rear. The turtle puts down his head and starts for the waters of the lagoon. Shouts of hilarious laughter from the riders, and cheers of encouragement from the onlookers make an exciting race of it, as the turtles labour on with their "jockeys," men and women, clinging desperately to their mounts. If the beach is uneven the rider is often unseated from the slippery carapace, and great is the joy amongst the barrackers. Down goes the quaint steed, heading straight for the waters of the lagoon, where she expects to unseat the strange being on her back. The novice finds that his mount dives as soon as she is in swimming depth and he has to let her go and rise to the surface, to an accompaniment of laughter from the beach. The expert turtle "jockey," however, knows the knack of holding his sea horse's head upwards, so that it cannot dive, and then comes the real fun of turtle-riding, as the excited animal swims about the waters of the lagoon, trying in her clumsy way to get rid of her old-man-of-the-sea.

A turtle carries a man or a woman with ease and, particularly on islands of the Capricorn and Bunker Groups, full advantage is taken of this by visitors to indulge in the sport of turtle-riding. On the sand it is fairly easy. Once your mount has entered the sea it is a different matter. Few master the art completely, but there is great fun in trying, even though an involuntary dive causes the abrupt end of the effort to be greeted by a burst of laughter from the "stand." The turtles have little to complain of, for those who are not turtle riders on their

islands are often turtle butchers, cruelly turning the clumsy things on their backs and leaving them thus helpless until enough have been arrested in their journey towards the sea to commence converting them into meat for turtle soup and shell for ornaments. The turtle-riders are not the enemies of their quaint steeds.



Turtle-riding, Capricorn Group.

[Photo.: Embury Bros., New South Wales.]

THE FISHERMEN'S HEAVEN

THE scarecrow, with arms extended, which was mistaken by a near-sighted angler for a fellow-fisherman illustrating in the traditional manner the size of "the one that got away," had nothing to do with the Great Barrier Reef. Anglers from far countries vow that there is no fishing place in the world to compare with the Barrier.

In the waters that flash back to the sun all the colours of the spectrum there are variety and number of fish for the angler that beggar description. Yellow and green and pink and purple, black and silver, rose-red and leaf-yellow, striped like the tiger and spotted like the leopard; starred like a summer sky, and tinted like the flowers of the garden, they swarm in countless thousands.

Drifting in the launch off the reef, with your line out in 80 feet, and your sinker dragging on the coral rock below, you may feel the thrill of bite after bite, battle after battle; tiny fish no bigger than your bait and giants that you find difficulty in landing. Coral trout, sweet lips, rock cod, red emperor, barramundi, red bream, colonial salmon, whiting, schnapper, bream, grunter, albacore, trevally, bonita turrum, swordfish, coral perch, sea trout, king fish, groper, parrot fish; swarms and shoals of fish of every colour and description and size, from the tiny sardine, to be caught with a net, to the huge fat, lazy groper, weighing hundreds of pounds, hauled in like a sack of potatoes. From the giant parrot fish, to be speared in the shallows, to the lightning fighting Spanish mackerel, the Australian tiger of the sea, up to 80 pounds in weight and 4 to 5 feet in length, which gives the man with the rod a thrill he has never had before.

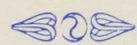
And, if you need more than any of these can give you, you may go fishing for tiger sharks in the deeper waters!

All these fish are not, of course, to be found in the one spot at the one time, but they are all to be caught on various portions of the Great Barrier in the proper seasons.

As an instance of the marvellous numbers of fish in these waters, a writer in *The Field* (London), of 27th December, 1930, said: "In the moonlight we could see the water alive with an immense shoal of fish. Gill to gill, they seemed to be holding a grand parade. We threw stones that bounced from back to back."

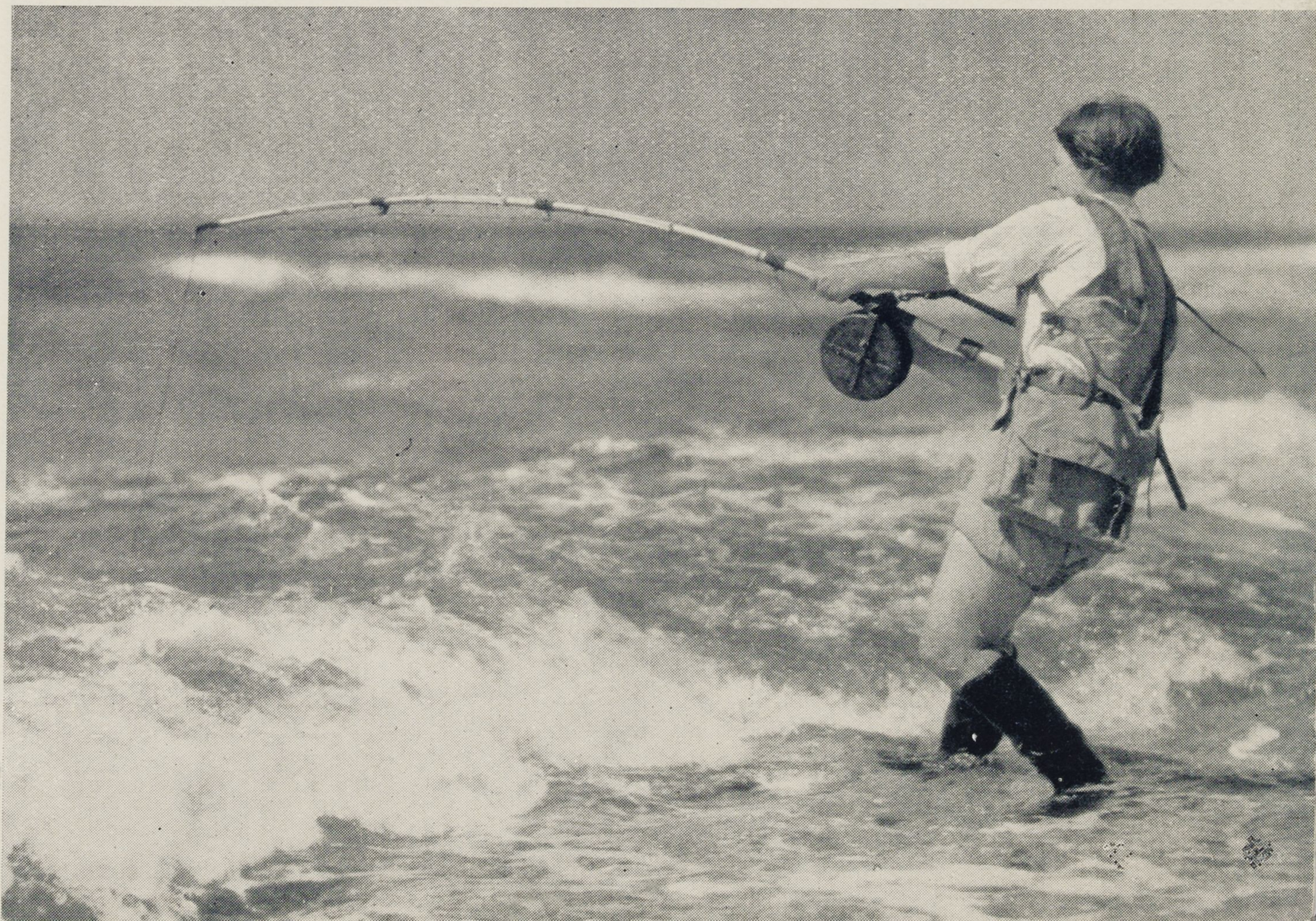
How's that for a fish story?

Mr. Elliot Napier, in his book, "On the Barrier Reef," says, "We fished and, great as were our catches, they will, no doubt, be greater when transmuted by the alchemy of memory. There were no mosquitoes or, indeed, any insect pests of any kind."



Fishing in Surf on a Coral Reef.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



MEET Mrs. TURTLE

QN introduction to the turtles of the Great Barrier Reef is in itself worth the trip. As the male turtles do not come ashore, it is Mrs. Turtle alone to whom the tourist on the Barrier is introduced. The astonishing domestic capacity of this denizen of the reefs has amazed and interested naturalists so much that staid elderly men, with long strings of letters after their names, have travelled thousands of miles, representing scientific institutions of the first importance, to sit on their heels in the sand all night, while the surf of the Barrier boomed in their ears and, by the light of pocket torches, watch Mrs. Turtle through every phase of her laying of up to 200 round, white eggs like golf balls, at a sitting.

There is a story which most of the Barrier Reef tourists hear before they return from their trip, about a man who, after watching a turtle lay her "clutch," went home and read every book he could obtain by or about the famous grafter of fruit trees, Burbank. This man was a Scot, and a poultry farmer.

Of all animals, bipeds or quadrupeds, Mrs. Turtle best illustrates the meaning of the hackneyed but expressive phrase "Do it now."

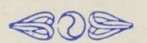
As the last of the twilight fades from the waters and islands of the Barrier, and the stars blaze out, numerous mottled green turtle backs are seen floating on the surface of the tide, at various parts of the beach.

Presently the curious watcher sees the movement of flippers and the wagging of a large, snake-like head, as the turtle waddles awkwardly out of the water and heads straight up the packed sand for the softer ground, above high-water mark.

Mrs. Turtle is bulky and slow; she travels ponderously and she measures as much as four feet from front to rear and three feet from side to side of her shell; and she is of portly build underneath. She puffs and blows, just as a stout human being would, while she climbs to the higher point of the island, and as she goes she leaves a track not unlike that left by an army "tank," though, of course, in miniature. Nobody could miss the track of a turtle.

On she toils, her head swinging from side to side as her small eyes search the vicinity for a suitable site for her nest; her tail bobbing up and down behind and a sigh of distress frequently issuing from her lips as she finds the going steep when the beach rises to the spot where the trees are.

Than Mrs. Turtle there is no more material creature outside the circle of the human race, or more methodical.



Young Loggerhead Turtles
(*Chelone imbricata*).

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



EGGS BY THE SCORE

ARRIVED at a suitable site Mrs. Turtle takes a spell, looks about her like a careful housewife, and makes quite certain that she has picked the best spot for the job in hand. Then, quite heedless of the tourists or scientists, who may be following her, torches in hand and funny or admiring remarks issuing from their lips, she goes to work and digs herself a nest with her flippers, a hole in the soft sand. Ever and anon she pauses and sighs, takes a rest and again proceeds with the job, sending the sand flying in all directions. Having made a hole large enough to take her carapace, Mrs. Turtle commences the most delicate and amazing operation—that of digging with her back flippers a perfectly formed circular cavity at least 12 inches deep as a depository for her eggs. This completed, in workmanlike fashion, she settles herself and lays, one after another, just as though she were an egg factory, from 100 to 200 eggs in a continuous session. When the last egg in the clutch has dropped into its position, she covers them over with sand, smoothes the surface with her flippers, pats it down firmly, makes a few indentations about it in the sand to camouflage it and then, without useless delay, heads for the beach. She leaves the eggs and the tiny turtles that are to come from them to do their own worrying from that time forward. She never sees them again.

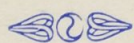
When the heat of the sand hatches the eggs, in a few weeks' time, the babies work their way to the surface. If it is dark they make for the sea instantly. Many of them are picked off by the birds before they reach the water; others are gobbled up by hungry fish as soon as they have taken their first plunge in the sea.

The mortality is terrific, but Mrs. Green Turtle, if she survives till the next laying season, is ready with her motto of "Do it now," to lay another 200. There are scores of her all eager to get to work at the one time on the one island, which explains the balance of live turtles on the Barrier.

Once the turtle makes up her mind to lay she goes to it with admirable concentration and, if she likes the look of the floor of your tent or the grave of the camp mascot, only physical force will prevent her using either as a site for digging her nest.

There are four kinds of turtle on the Barrier. Of these the Hawksbill is killed for the shell and the Green Turtle for eating, chiefly in the form of soup.

The Green Turtle is quite harmless, but the Hawksbill and Logger-head species will bite, if annoyed and given the opportunity. The eggs are white, a little larger than, though resembling, pingpong balls, the contents much like those of a hen's egg, but the white will not boil hard.



Turtle on Nest, showing Eggs.

[Photo.: Embury Bros., New South Wales.]



SEA AND SKY

THE dominating feature of the Great Barrier Reef is colour. The sea in which it is set is a living, moving kaleidoscope of hues. The white curtains of the sky above it are painted gorgeously by the rising and setting sun in colours such as are never seen in other skies. The reef itself, when exposed by the ebb tide, is a great mosaic of soft heliotrope and old gold, russet, and silver white, crimson and purple and green, merging into each other in a manner that is very soothing to the eye and most satisfying to the artistic sense. The very sands of the seashore are not the dull, concrete grey sands we see at home—the dirty grey associated with builders of cities or the dusty banks of dried-up rivers. They are of shimmering white against the blue of the sea; golden yellow in contrast to the green of the trees and grass; or rosy tinted at the bottom of the lagoons to form a marvellous setting for the living gems that are coral fishes above them.

There is something in the air, in the sunlight, or is it in the reef itself, that paints the waters of the lagoon a vivid green or a brilliant blue.

Everything that moves in the waters or flies in the air has at least a touch of vivid colour, and the creatures are few indeed that are not clothed like Solomon of old in glorious raiment.

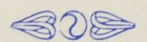
The surface of the sea, as you drift over it, on a calm day, changes its colour with every change in depth or shift of the angle of light.

At night you may go to the western side of the island to watch the last leaping shafts of the sunset; and then walk back to the eastern shore to see the moon and the stars sending across the shimmering surface of the glassy ocean broad and narrow paths of silver light of a dazzling purity that is only found on the Barrier.

The sunsets on the Barrier, however, are the rapture of the artist and the joy of the nature lover.

The varying depths of the waters of the Pacific about the reefs, the rich hues of the coral, the tropical colouring of the islands, the cloud formations and the great reflector of the sky, with its unlimited expanse of view, stretching from horizon to horizon at every point of the compass, together with the naturally brilliant blue of the ocean in the regions of the Barrier all combine to produce colour schemes that are found in no other

part of the world. To the city dweller, whose sunsets and sunrises are something he sees in the art gallery, or in the verses of his favourite poet, the dawns and dusks on the Barrier open up a new world of beauty.



The Reef, Nor'-West Island, Capricorn Group, showing Anglers leaving for Day's Sport.

[Photo.: R. G. Cole, Brisbane.]

SUNSET ON THE BARRIER

ON a calm evening (and most of the evenings in the tourist season are calm) you may gather together, free from mosquito-worries that infest you on the mainland; comfortably cool with the coolness of the South-east trade winds in summer; and watch a spectacle of colour in the heavens that will transcend your most delightful experiences.

The sky is of deep soft tropic blue. Across its face are drawn, in patches, fleecy white, curtains that enhance the blueness, as the blue enhances their dazzling whiteness.

As the golden ball sinks lower towards the western rim of the sea, its rays strike the clouds, from the under side. The billowy lace of the cloud curtain is flushed with yellow, and then with faint rose. The sea becomes a lake of liquid gold. Lower sinks the sun and the lacework of clouds through which the deep blue of the sky shows as a background, turns crimson, from the zenith to the western rim. Towards the east, soft, pink clouds float in the blue, and down on the eastern horizon they are silver white.

Into its ocean bed sinks the sun, slowly, as though loth to leave so lovely a world. The clouds turn saffron where they are nearest to him, and the yellow merges gently to soft brown shades and then into silver blue in the east. The sea of gold changes to one of emerald, and soon to a bed of pearl,

Twilight, fleeting, in these latitudes, is here. The veil of night descends on the sea imperceptibly.

A great silver star swims into view in a break in the cloud curtain. Another peeps over the eastern rim of the ocean. The glow in the western heavens fades out slowly. Rippling paths of silver appear suddenly on the surface of the sea—the tracks of the stars.

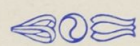
The sky is dotted with thousands of black wings—the birds flying home from their fishing grounds.

It is night on the Great Barrier Reef!

Overhead the stars, now dazzlingly bright as only they can be over the tropics, seem to be marching across the sky above the patches of cloud curtain, like a countless army of knights in shining silver armour.

The man of balance-sheets and the woman of household bills sit beneath a palm on the coral strand, watching the march of the stars, and vow that life is sweet indeed.

The discovery of electricity has robbed cities of the stars. The Barrier Reef proves it.



Sunset across the Lagoon, Nor'-
West Island.

[Photo.: Noël Monkman.]



THE ASTONISHING CRABS

To the ordinary citizen, as much as the scientist—or even more so—the Great Barrier and its islands and waters offer an amazing variety of animal life. To the tourist, seeing these beings in their habitat for the first time is a joyous experience that increases as the hours spent on the Barrier slip away.

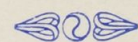
From the tiniest things, so small that a microscope must be used to distinguish their outlines, to the 16-foot tiger shark, or the 400-lb. groper—each has his own distinct characteristics, personal appearance, and method of getting a living, just as have the various sections of the human race. Watching them at work and at play is a never-ending pleasure. Fish, birds, animals, beetles, insects, crabs, worms, plants, all are gorgeously decorated by the lavish brush of Nature; and each has perfected himself in building a home, raising a family and providing for them, according to his own favourite method.

The crabs of the Barrier are a new people in a strange country, infinite in their variety, to the average man or woman seeking a holiday from the city streets and the suburban cottages. Spotted and striped in amazing colours; shaped in all possible ways, the shells of the crabs are dotted about the shallows of the reefs and islands. Particularly at night they sally forth across the sand of the beaches in great numbers, and the excitement of the crab hunters waxes and wanes as new treasures of colour and shape and habit are captured or lost.

There are crabs who camouflage their shells like warships, with bits of seaweed, in order to deceive the prey for which they lie in wait; others who advance upon their victims holding a piece of some marine growth in front of or over them by two spare claws, much as the Queensland blackfellows used to stalk their enemies in early days by trundling pieces of “role-y-poley” before them as they crept across the plains, until they were close enough to use their spears. One type of crab uses the poison from marine flowers as a weapon of defence; another sits and watches until some other creature captures and kills a breakfast—and the crab then calmly robs him of the fruits of his labour, just like a bandit in the mountains or a hold-up man in the city.

There are myriads of crabs on the reefs and beaches, and each one is worth studying, as a type, like a human being. They run across the sands in armies as the visitor walks about among them; large enough to give a

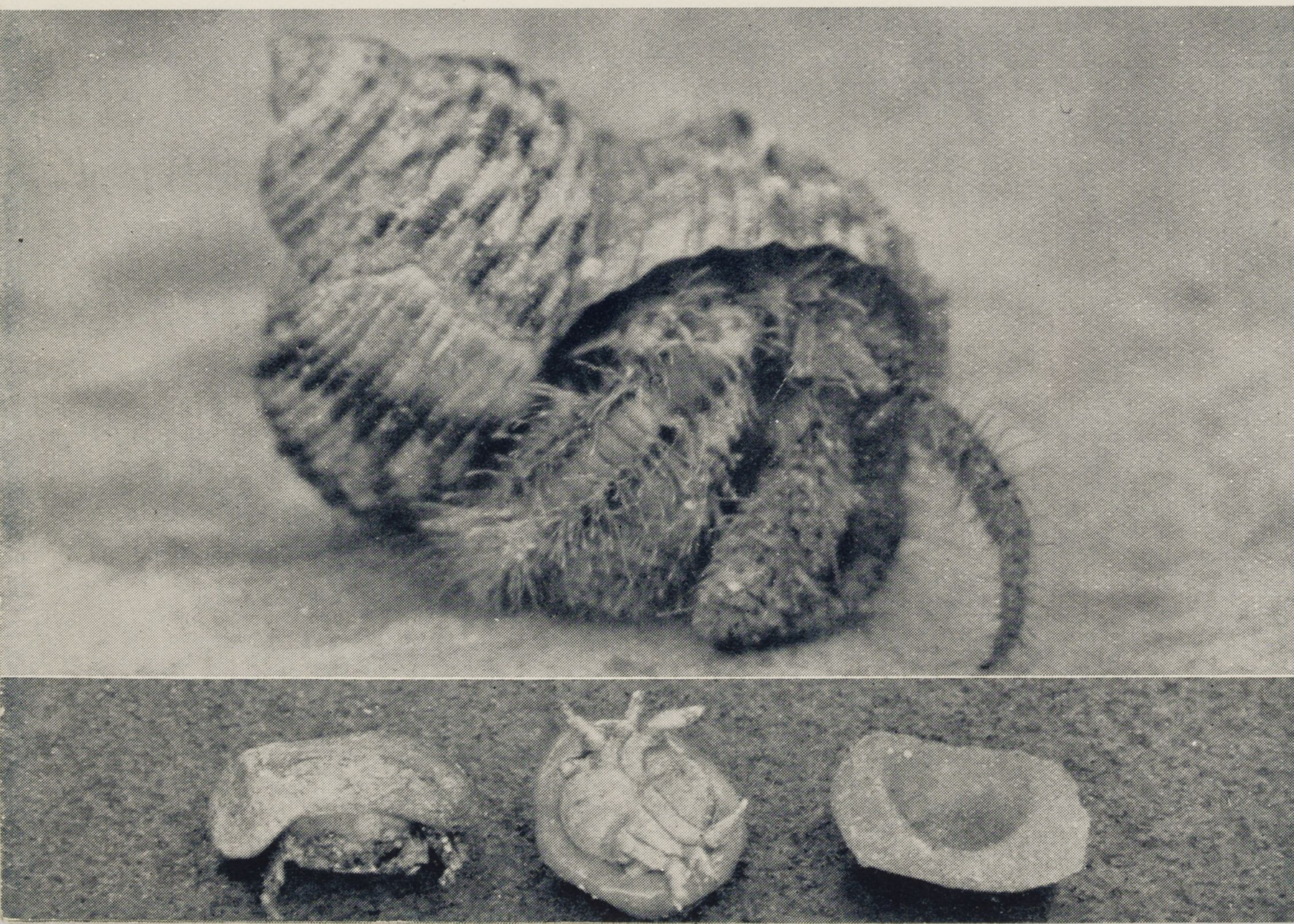
man a wound he will rue and small enough to be classed with the insects in size. One type carries his spouse about in his arms everywhere he goes; some of them go forth like bandits and rob all who are weaker than themselves, if they have something worth stealing.



Top: Hermit Crab (*Aniculus aniculus*).

Below: Sponge Crab (*Dromia* Species), showing Crab with Sponge on Back, Ventral View with Crab snugly fitted in Sponge, and Sponge with Crab Removed.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



VANITY UNDER THE SEA

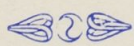
HERE is a specimen which decorates his helmet with brilliantly coloured sea anemones, as a woman decorates her hat; a fellow who changes his colours constantly, from tint to tint, shade to shade; a female who lays eggs like a bird, and another who produces her young direct; another who carries her babies on a dicky seat, behind, for all the world like a roadster car. One type of crab has an extension gear on which he thrusts his bright little eyes right out of his head when he looks for his dinner, in order to see round the corner of his shell, and draws them in again when he has seen all there is to see. There are crabs, furry like cats, woolly like dogs, fierce like tigers, and sluggish like oysters—and most of them are dressed like Solomon in all his glory.

Some of them live by hunting, others by murder and robbing, and still others by simply sitting down and enjoying themselves while Fortune sends them food right to their lips, walking on its own legs or swimming with its own fins—to keep them fat and prosperous like a man who has nothing to do in life but collect the interest of a substantial legacy.

And, amazing as it may seem, there is the gallant little Columbus or Sargasso Crab who, like his adventurous namesake, has come voyaging from far countries, snugly ensconced on his little piece of seaweed or other flotsam of the seven seas, until he has run the gauntlet of the breakers on the Barrier in his bark, to come ashore, like the Great Voyager, when he sighted the Indies, and stretch his legs on the white coral sands. Many specimens of this remarkable crab have been found on the Great Barrier and it is not uncommon to find them drifting on their little ships of green weed, far out at sea.

Last, but by no means least, we have the crab whose fame has spread far beyond the sound of his booming surf—the Hermit Crab. The visitor to the Barrier goes seeking beautiful shells, and he sees one as small and lovely as a tea rose or as large and strong as a jardiniere and more exquisitely tinted and patterned than a potter could bake or painter paint. He picks it up to examine it—and out scrambles a Hermit Crab, clad completely in flaming red armour, and scuttles away for his life. Having no shell provided by nature the Hermit Crab takes the discarded home of another denizen of the reefs; he tries it out and, if it fits him comfortably, he moves in and takes a lease of the home till he grows too large for it. Then, like a flat dweller whose income has increased, he goes forth and finds a larger house and transfers his address.

To save himself coming a long way home at the end of the day's work the Hermit Crab takes his home with him everywhere he goes. Take a Hermit Crab out of his borrowed shell and he will run to it and put it on again.



Giant Sea Anemone and Demoiselle Fish (Amphiprion).

[Photo.: Noel Monkman.]



THE WINGED BATTALIONS

NEVER will the visitor to the Barrier forget the countless battalions of the birds. The bush stirs with the rustling of millions of wings. The night is resonant with the cluckings and chuckling of dense colonies of birds, nesting in the trees and on the ground. The sky is smudged for miles wide with the clouds of birds rising with the dawn, and the last rays of the departed sun in the evening silver their wings as they swoop down from the heights above the Barrier to nest for the night. The birds, like everything else on the Barrier, are startlingly interesting to the visitor

The frigate bird, for instance, is the modern buccaneer of the Barrier. He sallies forth, when the dawn breaks, and circles on steady wing, like a pirate ship of the air, watching for a galleon loaded with treasure in the shape of fish. Flapping heavily, a huge-billed clumsy, fishing bird, such as the gannet, rises from the surface of the sea, laden to his carrying capacity with a big fish he has captured, and sets his course for the nest where his family await the feast. The frigate bird, like Captain Kidd of old, spies the treasurer-carrier from afar and swoops down from the blue with a marvellous turn of speed, straight for the gannet, who is a defenceless supply ship, not a fighter. The gannet, unable to make a run for it while laden with the fish, jettisons its cargo and, putting about, crowds on all sail for port. The frigate bird continues the flashing descent from the sky and deftly catches the dropped breakfast before it reaches the water

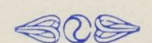
There are the noddies, the gannets, the mutton birds, and terns, who make their home on the Great Barrier, and the visitors who come from afar for the fishing and crab catching—millions of them—to provide a spectacle for the tourist, unparalleled.

Strolling on the reefs or islands you may see the Turnstone bird, turning over the stones on the shore with beak and head, and picking up the tasty little animals who have specially hidden themselves from danger, only to find it was in vain.

The Oyster-catcher is a bird, whose black feathers and scarlet legs and bill make him a conspicuous figure as he stalks about the shallows, seeking his favourite food.

Sea eagles sail on majestic wing up in the blue; golden plovers bustle about on the exposed reef at low tide or on the coral strand.

like busy citizens going about their daily toil with ordered intent. The silver terns nest on the shingled beaches, black-crested, bills and feet roseate, blue or yellow; they rise on the wing at the approach of a stranger, in clouds of graceful beauty, to darken the sky.



Terns in Flight, Oyster Cay,
near Cairns.

[Photo.: Noel Monkman.]



THE MUTTON BIRD CITY

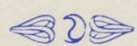
ON Lady Musgrave Island and Nor'-West Islet and other spots in the Barrier, mutton birds live in the crowded density of a huge bird city; and to see them depart from their homes at the first break of day, crowding down the paths they have trodden beneath the trees, is to see the feathered citizens of a bird city crowding the streets on their way to their daily toil. Like human citizens they have left one of the parents in charge of the nest and the young ones; unlike them the male and female take turn about to stay at home and mind the children, while the breadwinner goes forth to the day's work. And the sight of the mutton birds coming home in their hundreds of thousands when the day is done is one to remember.

The mutton birds share these particular islands with the little, dove-like, white-capped noddies, and a remarkable community arrangement between them exists. The friendly, happy little noddies build their nests in thousands in the low trees. The clumsy mannerless, self-assertive mutton birds burrow in the ground, which they honey-comb with their domestic establishments till it is difficult to find a spot where one may walk without the ground covering a nest giving way. The noddies wait till the sea-going battalions of mutton birds have departed for the day before they rise from their beds; and they are always tucked safely in the nest before the mutton birds come home. This is a system of domestic economy which perfectly solves the problems that would otherwise arise where two great gatherings of birds, totally different in every respect, inhabit the one small piece of land, where every inch of space is required, like the crowded spots in big cities, for accommodation.

On Hoskyn and Fairfax and other islands, the goose-like gannets, the expert fishers of the Barrier, cover every foot of their nesting sites with their nests, crowded together like tenements and flats, and noisy with birds in all stages, from the naked infant, newly out of the egg, to the full-fledged bird who has just furnished a home for himself and his wife. The youngsters are like balls of ermine—the elders a striking black and white, with snowy breasts.

The visitor to the Great Barrier has a feast for his eyes in the grace and beauty of the long-legged, stately herons, snow-white or jet-black, stalking from pool to pool, singly, as the tide recedes from the blazing colour of the inner coral reefs, selecting titbits with all the dainty grace of a high-born lady at a society dinner. The herons like society ladies object to crowds and invariably separate from each other at meal times, as they follow the edge of the outgoing tide, taking home to the young ones the early catches.

The silver gulls, as coarse in their eating as the heron is dainty, are to be seen at home, in all the domestic privacy of their inner circles.



White-capped Noddies, Capricorn Group.

[Photo.: Embury Bros., New South Wales.]



LIVING WONDERS OF THE REEF

INTERESTING beyond description are the denizens of the reefs and pools of the Great Barrier. Their numbers and variety are beyond the compass of any book, but a few examples may serve to give the reader some idea of what he may expect to see. They must be seen to be believed.

Coral animals sometimes smaller than a grain of sand, spear their living prey with poison darts, before eating them. Whales, larger than the largest prehistoric animals depicted in the museum reconstructions of the biologists, play about in the waters adjacent to the reefs, as frisky as sardines—and the sound of the splash as they throw themselves from the water and fall back again is like thunder. Frequently visitors to the reefs have watched thrilling battles between these monsters and their natural enemies, the “thrashers,” which are ferocious as tigers and as merciless.

Graceful dolphins play round the boat as it skirts the outer reef, and flying-fish leap like living jewels into the sunlight, to fall back into the blue bed of the sea.

In the pools and lagoons, wading in thick leather boots, with your waterscope or diver's goggles, there are marvels to behold.

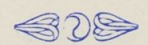
The flower-like sea anemones may be seen, lurking with their poisoned tentacles, for their prey, amongst the coral rocks, and about them the crabs and small fish that have, in the course of the ages, become immune to their poison—“picking up a good living,” as one writer has it, like Lazarus on the scraps from the rich man's table.

Turn over a brilliantly embellished marbled reef crab and you find he is covered with barnacles underneath, like the bottom of a ship, and the barnacles have penetrated his body with a system of roots that drain his life-blood, carefully leaving his vital organs uninjured.

Pick up a brittle star-fish, blue as the skies, and it breaks itself up instantly into five points and a central disc that wriggle and squirm in your hand

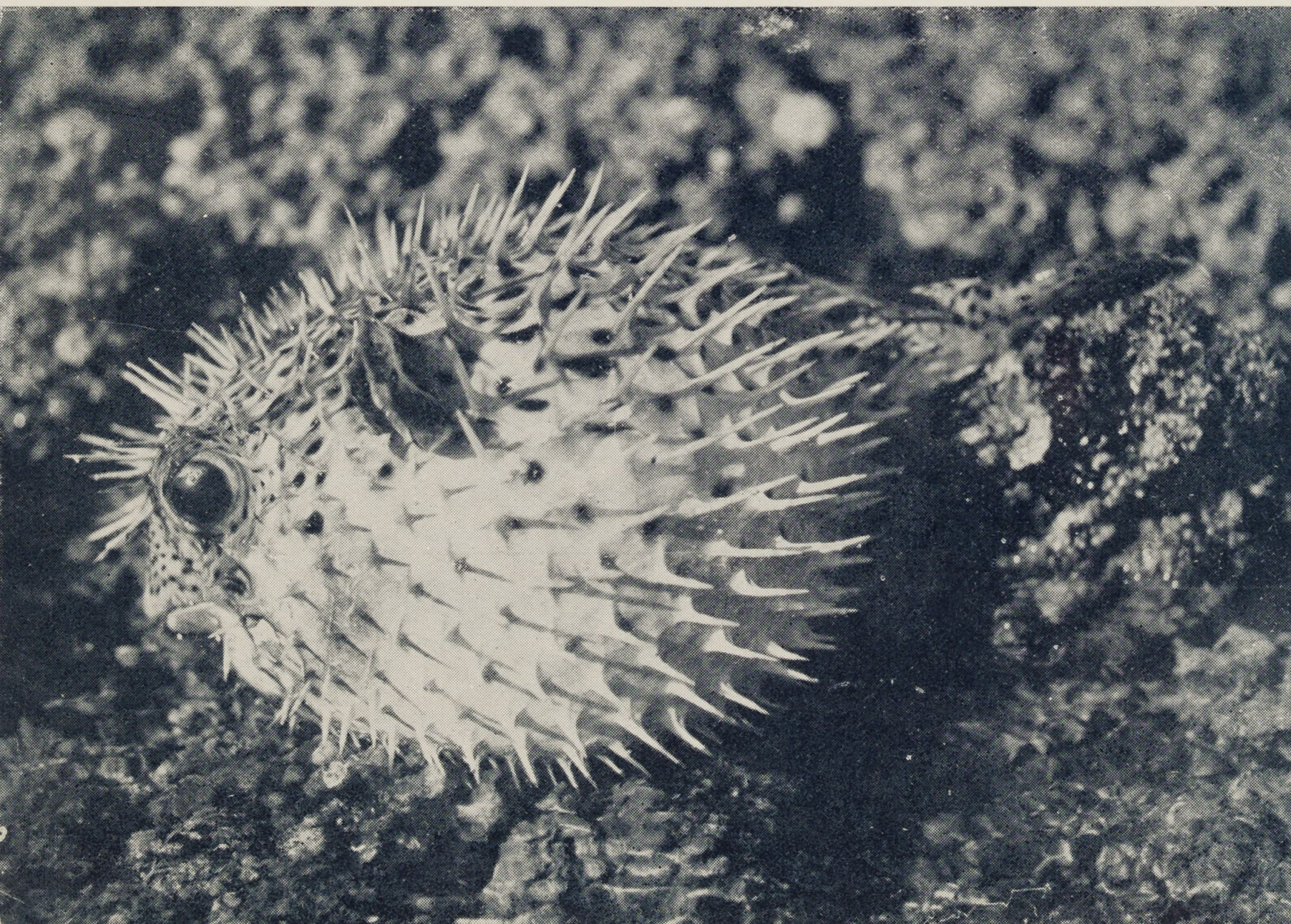
Lurking, sinister but beautiful, in the recesses of a coral grotto, is a small octopus that has the power of changing the colour of its body from a dead white to brown and yellow, while you watch it—

to deceive the prey for which it waits. It floods its whole system with pigments contained in cells, or drains itself of colour till it is livid white, at will. Spotted green sea snails, eating the seaweed just as garden snails eat cabbage plants; firefish, covered with poison spears—death to their enemies.



Porcupine Fish.

[Photo.: Thiel Studio Pty.,
Ltd., Brisbane.]



THE BEAUTIES AND THE BEASTS

CUTTLE fish, disturbed by your approach, steams away at full speed like a small man-o'-war, and emits a smoke screen of inky fluid as it goes, to cover its retreat—just as a battleship does. One little fellow is so afraid of being eaten alive that he has developed a square, box-like suit of armour, from which the fins and tail are all that protrude; and, thus protected from cannibals, he swims slowly about, safe as a man inside a war “tank.” He is known as the box fish.

Beware lest you tread on what has been described as the most hideous of living things—the stone fish. He is as ugly as Dore's pictures of Sin, and on his back he erects a line of spikes connected with poison ducts, like a snake's fangs, on which he impales his enemies. The stone fish is said to be the only serious menace of the reefs.

Microscopic fish, like crystal jelly, trail after them long streamers, coloured like the draperies of a spectacular cabaret dancer; and in each of them is death by poison to the infinitely small animals destined as food for the tiny creature.

A rainbow-like worm, so small that he requires a magnifying glass to be seen properly, has a row of blunt fleshy feet, which he uses as paddles when he swims at comet-like speed after his vanishing breakfast, in the form of a terrified creature smaller than himself. Look at him under the glass and he has a savage head and menacing jaws, as terrible to see as those of any creature of the jungle.

Another dweller in the pools is the barometer crab. He is said to change the density of his ten red dots with the changes in the weather.

Side by side they live in amazing beauty and hideous ferocity—smaller than a pin's head and larger than a ship's boat—and their rule in life is kill or be killed.

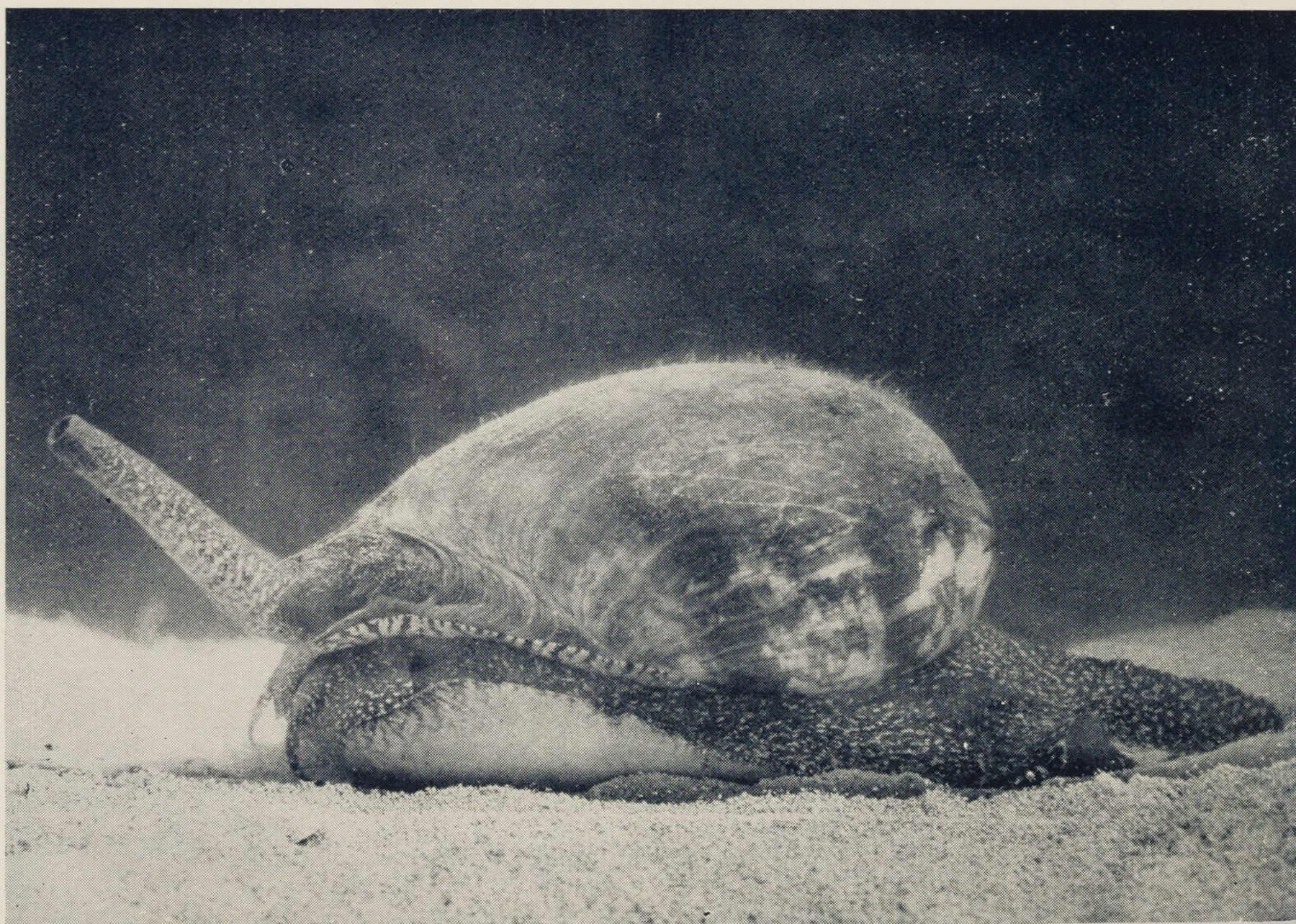
To the naturalist, and to the observant traveller on a holiday, the life on the reefs is a spectacle of the survival of the fittest that cannot be paralleled. And the survival of the fit is seen, as much in the cultivation of personal beauty and physical skill, as in fighting ability.

Even the sea urchins know that it is a case of eat or be eaten, down your neighbour or he'll down you. Tiny sea creatures grow trailing draperies of marvellous colours to deceive the innocent little fellows who come to see the sights; once close to what looks like a glorious coral flower the visitor finds he has met a cannibal and is to fulfil his destiny by providing a short snack between meals with all he has developed in the struggle for existence. The next moment the cannibal is eaten by a bigger one.



Melo or Bailer Shell (Melo amphora), showing Shell with Mollusc fully Extended while Moving under Water.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



HAPPY DAYS ON THE BARRIER

FROM the descriptions of hundreds of those who have spent a week or two on the Barrier, and from the entries in their diaries, it is very easy to reconstruct one of the happy days of the holiday in the open air, away from the noise and stress of business or the heat and dust of the bush.

Up with the first approach of the dawn that comes smiling across the leagues of the Pacific Ocean to invigorate another glad day.

With the first silver streaks of daylight stealing across the eastern sky the intriguing spectacle of the departure of the countless legions of the birds for the fishing ground begins.

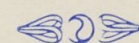
By the time the rosy tints of the sun flush the fleecy clouds, the turtles are awake and moving for the beach. The members of the party catch their clumsy steeds and the sport of turtle riding engages them until the beating of a ladle on a tin dish calls a hungry and happy group to breakfast of coral trout, caught a few yards from the tent, the night before.

The cry: "A bite!" breaks up the breakfast party and a rush is made for cameras to photograph the hundredweight fish that is struggling on the line which has been set all night, 100 yards from the tent. When the excitement of the landing and the kill are over the party breaks up into groups. One goes in a boat to fish with lines, where there is fishing incomparable. Another takes a boat and waterscopes to drift over the lagoon, and see the wonders of the coral gardens and grottoes, and their inhabitants. A third group visits the rookeries to see the bird colonies, or goes exploring the forest to hunt for brilliant lizards; strolls on the coral sands to gather beautiful shells, of which there are countless varieties and colours.

Those who feel no need of physical movement may select a pandanus palm and, in its shade, laze away the happy hours, watching the ever-merging colours of the opalescent tropic sea, listening to the majestic music of the surf tumbling on the outer reef, and pondering on the marvels of the Barrier.

There is amazing food for thought in the ruthlessness, the beauty, the solitude of the Barrier; the story of the tiny architects, building the reef on which you are camped, never ceasing, always raising their home towards

the surface, as the cooling fires below cause their foundations to recede. Three thousand miles of reefs and islands, the work unceasing of the tiny creatures. The beauty of the birds, their destiny, to people the islands and the waters; the savage murder that is the means of existence.



Needle-spined Sea Urchins
(*Centrechinus setosus*).

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



AROUND THE CAMP FIRE

TURTLE steaks, oysters, and fish make lunch for hungry men and women a treat in itself. After the meal the energetic may put on thick boots and go spearing eels and parrot fish in the lagoons.

The day is hot, but glorious, with brilliant beaches, sea, and sky, and the south-east breeze is very pleasant. There are no mosquitoes or sandflies to pester you. You may, therefore, go in shorts or bathers with comfort.

If you have an interest as a naturalist, amateur or professional, the simplest and the most complex forms of life are there, side by side in the same pools for your study. The most beautiful and the most hideous creatures crowd each other for your intellectual entertainment.

Men and women in the party have travelled and seen strange lands, met with interesting people, and read fascinating books. You have the choice of your own thoughts or their company and conversation, free from business or family cares—free, for the time, as the white gulls sailing up in the blue-and-white ceiling of the sky, or sporting on the heaving, scintillating surface of the sea.

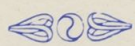
For tea there are oysters from the rocks of your temporary home, and real turtle soup from the turtles you have helped to catch and prepare.

As the sun dips towards the west, the mutton birds and terns come home from their fishing grounds and provide one of the entrancing sights of the Barrier.

Somebody lights a log fire under the pandanus palms and, as the shades of night descend, a happy care-free party, pleased with the day's sport and the cook's preparations, gathers round to sing, recite, and swop yarns for the evening. Somebody brings out an accordion, a violin, a ukelele, or even a prosaic mouth-organ, and the night is filled with music, under the dazzling glory of the tropic stars that make the waters dance with a billion diamonds from their rays.

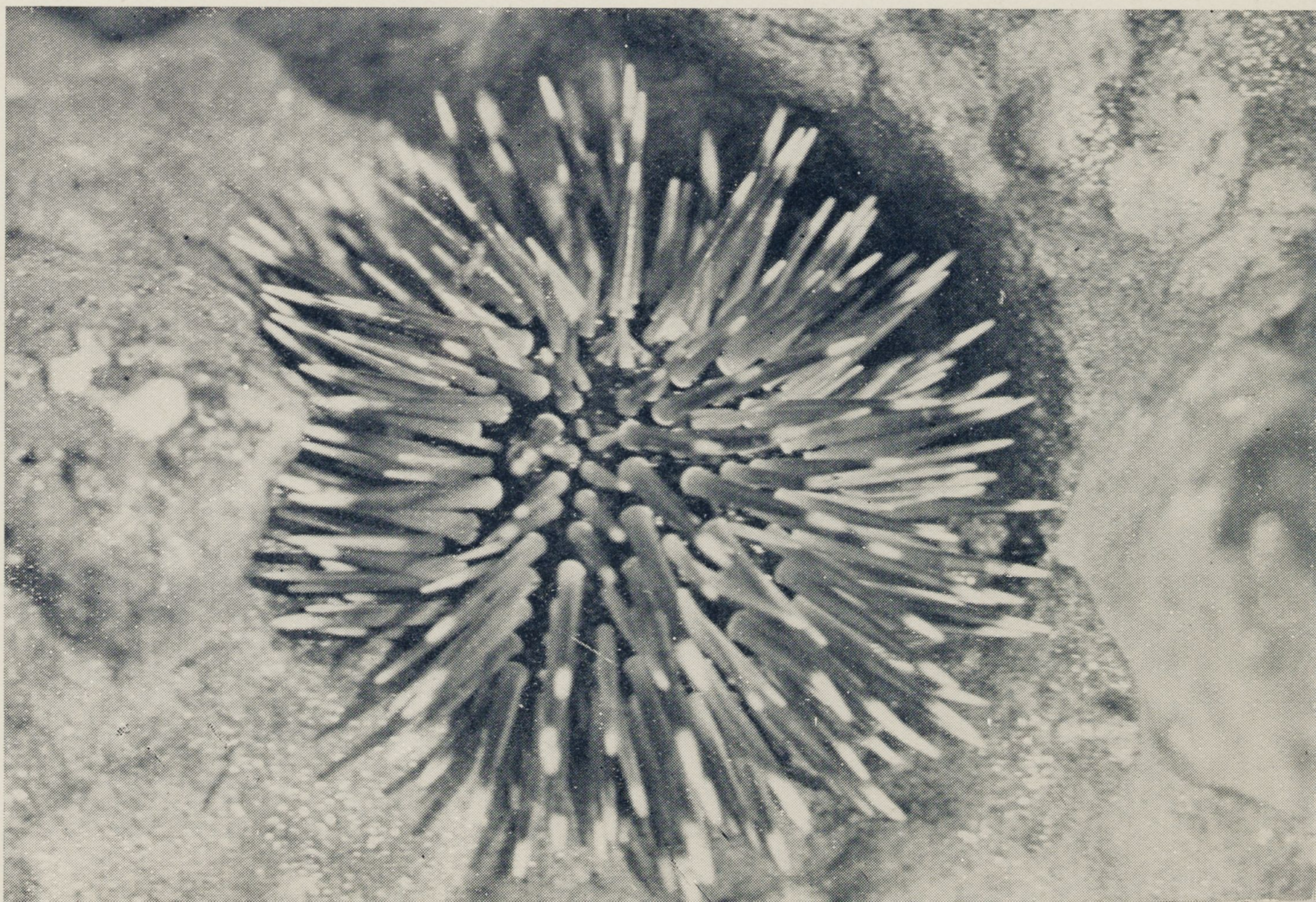
Choruses are started, and soon the entire company is singing heartily the songs that have captured the fancy in the busy world from which they have escaped for a brief spell.

And so to bed. The night is cool enough to make blankets acceptable. The music of the surf is the last sound in your ears. The last thought before slumber claims you is that dawn means to you the beginning of another of your Happy Days.



Short-spined Sea Urchin.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



WEALTH FROM THE BARRIER

SINCE the first discovery of the Great Barrier by the adventurous seamen from the old world, the romance of its industries has coloured the pages of fiction and journalism with vivid splashes. Beche-de-mer (or trepang) and pearl shell luggers have put forth from Thursday Island and Cooktown to dare the dangers of cyclone and treacherous reef and, sailing the entire length of the Barrier, the divers have skimmed the reefs in their dinghies and robbed the sea of its treasure. In earlier days the fleets were manned by natives and owned and captained by whites, but in later times the control has passed chiefly into the hands of Japanese. The trepang, a large sea slug much favoured in China as a table delicacy, is picked off the sea floor by divers from the small boats, or waders in the shallows amongst the reefs. As soon as possible the catch is boiled, sun-dried, and then smoked with red mangrove wood, to cure it, before selling it to Chinese dealers at Thursday Island. Trepang is of varied kinds and values, and brings from £30 a ton, when cured, to £350 a ton. During the last year for which total figures are available, the trepang exported from Thursday Island (obtained on the Barrier and about the adjacent islands of the Coral Sea), was valued at £13,245, and weighed, in its greatly shrunken and dried state, 2,642 cwt. Five years previously the value of the year's export was £33,000.

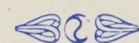
Since the Great War the trepang fleets have developed a big trade also in trochus shell, which is fished for in the same way as is the sea slug, and used for the manufacture of "pearl" buttons.

The trochus shells are boiled, and the meat extracted is favoured by coloured crews as food. Cured, it brings up to £60 a ton at Thursday Island. The shells, packed in bags, realise at Thursday Island from £30 a ton to £100 a ton; the annual export of shell exceeds 14,000 cwt. and is worth more than £55,000.

An interesting point about the Barrier trochus shell industry is that in Japan, where the shell is sold, Japanese families, owning their button-making machines, have completely captured the cheaper shirt button market in this class from the Americans and Europeans who use the more expensive pearl shell.

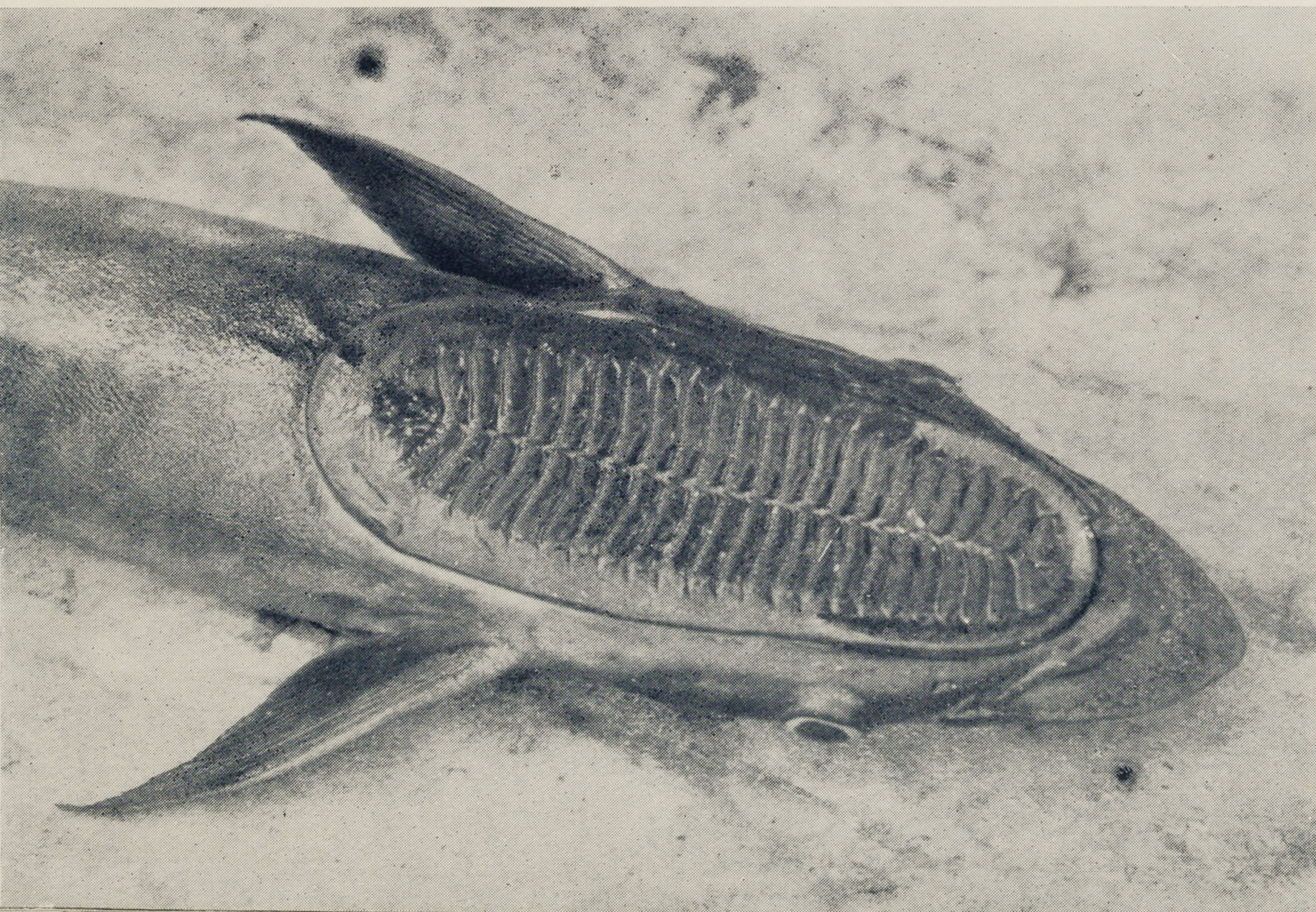
Enormous quantities of edible and marketable fish abound all along the Barrier, but, owing to the lack of neighbouring population, the fishing industry is still in its infancy. A start has been made to exploit the market for frozen and cured fish by a freezing and canning factory at Gladstone, and

preparations are being made for more fully exploiting the possible export trade in cured fish. It is believed by business men that an enormous market in cured fish from the Barrier could be found in the East.



Head of Sucker Fish (*Echeneis naucratus* Linnaeus), showing Sucker by which it attaches itself to Sharks. This remarkable Fish obtains Transport from place to place without effort, and feeds on scraps left by Sharks.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



A FIELD FOR INVESTORS

A COMPANY is being organised, at the time of writing, which has for its object the marketing of the products of the great numbers of sharks in the Barrier waters; and another is commencing to operate in the Murray Islands, in the export of sardines.

Oysters on the Barrier also form a great source of potential wealth, as well as crayfish and crabs.

Sponges, coarse, but readily marketable, grow there in great numbers, and these can be cultivated "from cuttings," in commercial quantities, in suitable "plantations" in the sea.

Already the yearly exports from the Barrier have reached a value of £250,000, and with the artificial cultivation of the growth of pearl and trochus shells and sponges, as is done elsewhere by the French, together with the export of cured and canned fish and other marine food products, a great commercial future lies waiting on the Barrier Reef for capital and enterprise to develop it.

Scientists and others who have spent lengthy periods on the spot say the labour costs need not be high. The authorities entrusted with the problem of the care of the natives would no doubt welcome with open arms an industry on an extensive scale that would provide for these people the work to which they have been born and bred, but which, in the present conditions, is denied them, while many of them live in mission stations or are making only a partial success of an enforced attempt to compete with the white man in his own trades.

The development of the marine industries of the Great Barrier Reef offers vast opportunities alike to investment organisations and to the coastal and island natives, who are dying out for want of suitable work to do.

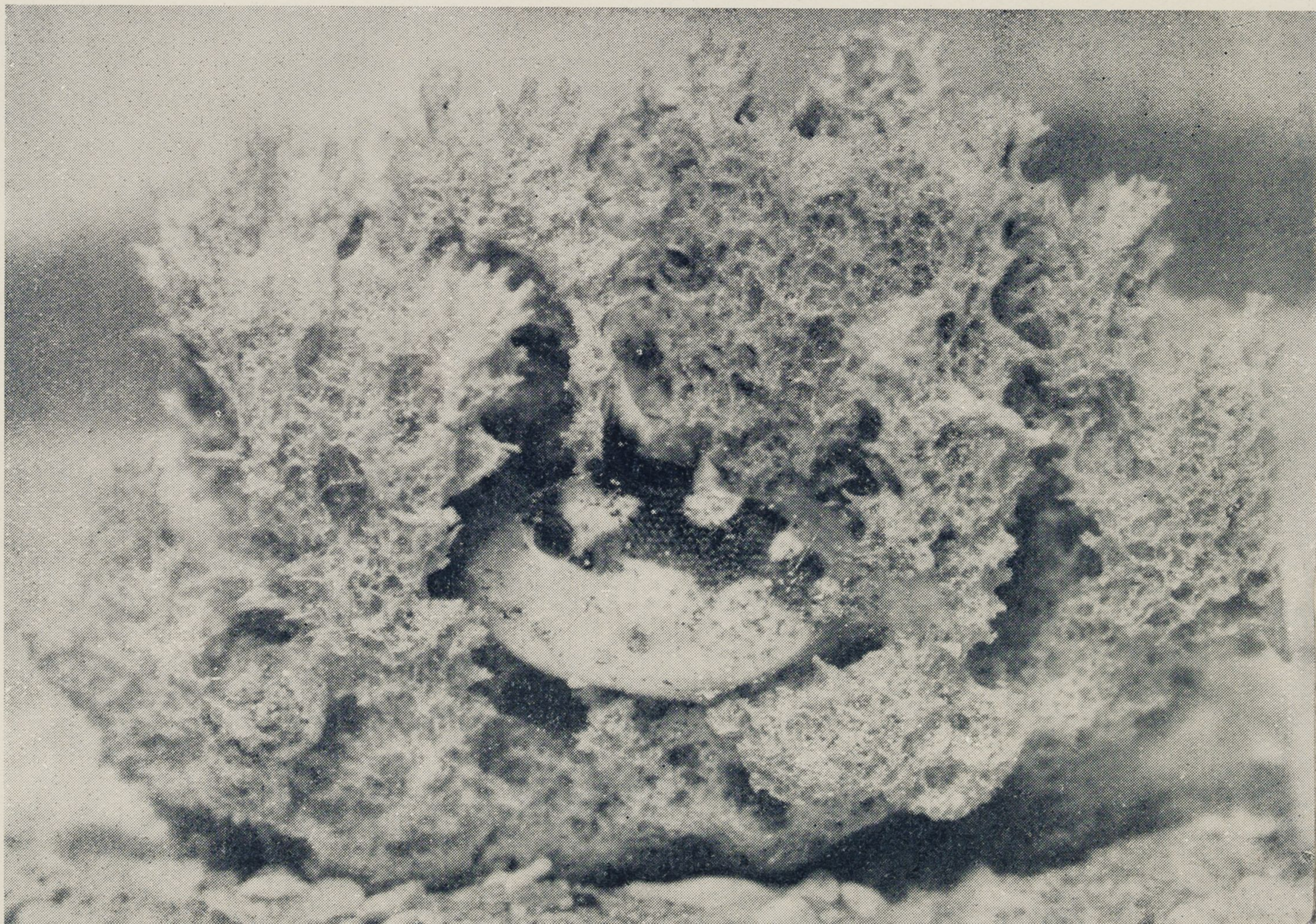
Another aspect of the development of the commercial resources of the Great Barrier Reef of Australia is the tourist traffic. In the last year or so preceding 1933, the Queensland Government Tourist Bureau has been able to direct some of its activities towards making more widely known the advantages of the Barrier to the tourist and holiday maker.

Considerable press publicity in Queensland, and also in the Southern States, has been the result. Through the Southern tourist bureaux, shipping and railway offices, hotel, and other avenues, magazines and other publications in countries overseas, such publicity has begun to excite the interest of wealthy sight-seers, and to draw attention to the Barrier.



Young File Fish (Balistes Species) hiding in Sponge. An Example of Protective Coloration.

[Photo.: Otho Webb-Embury
Barrier Reef Expeditions.]



THE GARDEN OF MEMORIES

THE Great Barrier Reef of Australia is the exception that proves the rule "There is nothing New under the Sun," so often quoted in connection with globe-trotting. The Barrier is something startlingly and enchantingly new to the tourist who has seen the Rockies and Venice and Vesuvius and the Grand Canyon of the Colorado, the bull fights of Spain, and the Wheat Pit of Chicago. A fortnight on the Barrier opens up new vistas of creation. The visitor gets a glimpse down the corridors of time, and senses something of the story of life and its climb up the path of eternity. He sees a little of the vastness of Nature and of its beauties and marvellous methods, at close range. There would be a quality lacking in the fellow who could come away and say that beyond a pleasant holiday he had nothing for his time and money.

All over the world are people, sated with travel and adventure, who are as enthusiastic in their praise of the delights of a stay on the Great Barrier as is the stay-at-home who has roused himself for once to leave the Queensland coastal city and be startled out of his self-complacency by the wonders that were undreamed of by him till he went to the Barrier.

When the launch is coughing over the shallows to breast the swell and hoist her white sails for the homeward trip to the mainland, a sigh of regret escapes the lips of the most hardened for the glorious days and nights that have just slipped into the past; the happy, healthy, care-free days, feeding the soul on beauty and the mind on the wonders of the Creator; the pleasant companionship of people untrammelled by business or domestic cares; the happy evening parties around the camp fire; the ever-changing glories of colour in sea and sky and land; the invigorating exercise in the tonic air; the calm, deep sleep at the end of the day; the beauties of the tropic night; and the anticipation of to-morrow's joys that are to commence with the breaking of the day!

The booming organ pipes of the surf are muffled by distance as the islands recede astern. The passengers fall silent, each busy in his garden of memories that is as lovely and as lasting as the coral gardens of the Great Barrier, and will serve him with a fund of happy reminiscences wherever in the world he may roam.

That fortnight on the Great Barrier Reef! Ah! Those were the days—and nights.



Travel Service.

For information regarding organised excursions to the Great Barrier Reef and further particulars concerning sailing schedules, points of embarkation, inclusive costs and booking arrangements . . .

Consult the
Queensland Government
Tourist Bureau,

George St., Brisbane,
Margaret St., Sydney,
Queen's Walk, Melbourne,
and at
Rockhampton, Townsville,
and Cairns.

Dusk—Green Island, near
Cairns,

[Photo.: Noel Monkman.]

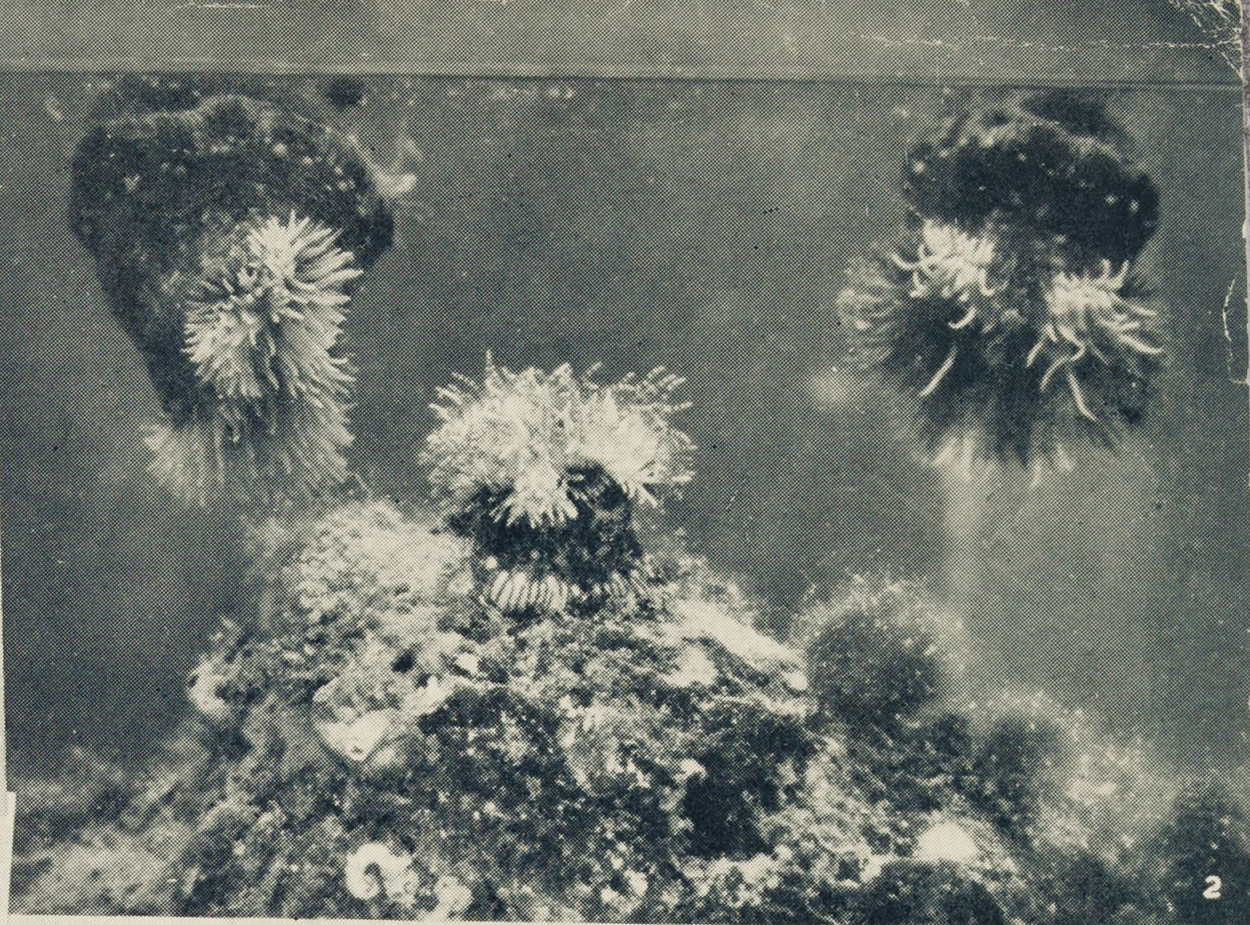
JOHN OXLEY LIBRARY
THE GREAT BARRIER CORAL REEF,
QUEENSLAND

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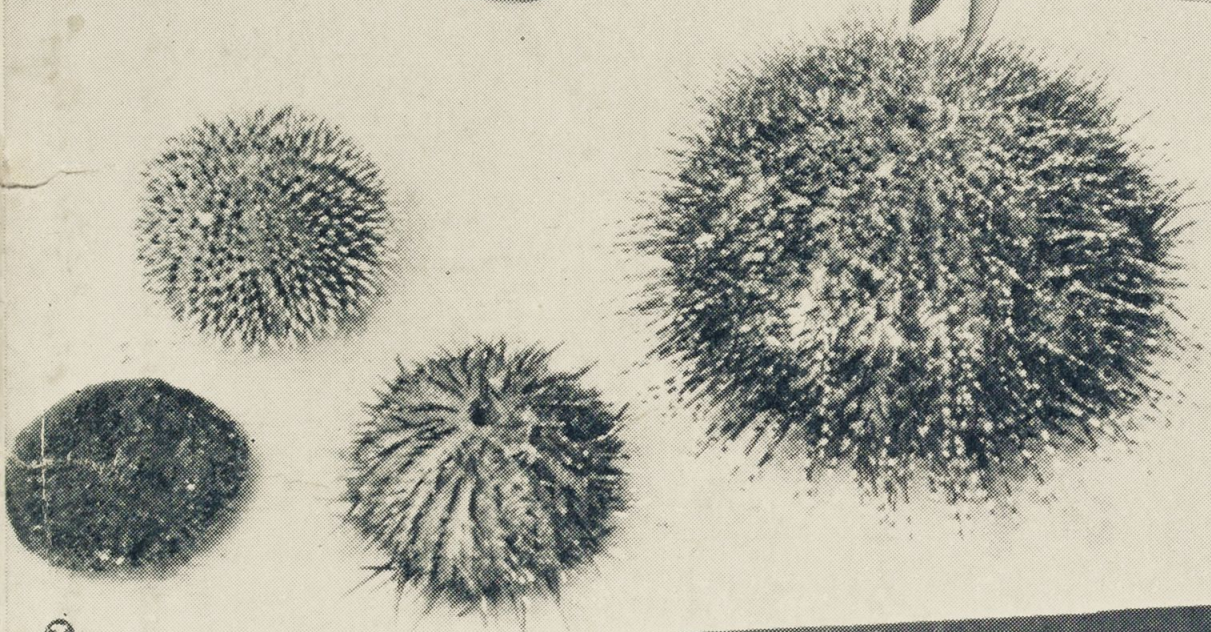




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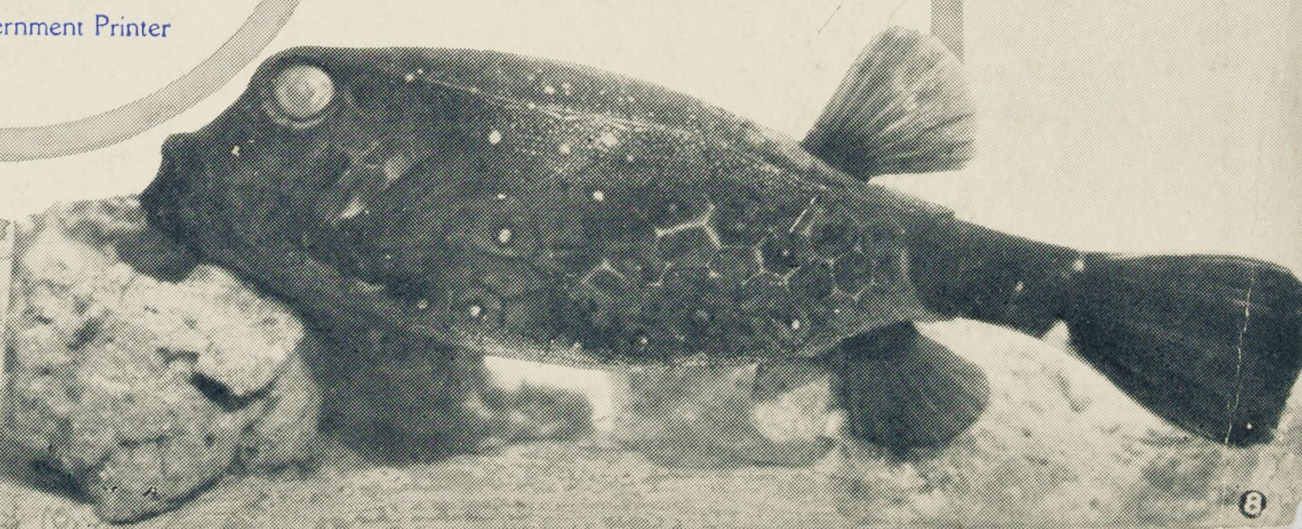
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1. Crab of the Gods.
2. Anemones (Flowers of the Sea).
3. Sea Urchins.
4. Mutton or Ass's Ear Shell.

Compiled
and Published
by the
**Queensland Government
Tourist Bureau**
George Street, Brisbane.

F. Phillips, Government Printer

5. Sea Hare.
6. Brittle Sea Star.
7. Pleurobranch Mollusc.
8. Box Fish.



8

